



4

SEQUENCE LISTING

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USING THE SAME

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Thr Tyr Glu Pro Tyr Pro Tyr Gly Val Asp Glu Gly Pro Ala Tyr Thr
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Tyr Gly Ser Pro Ser Pro Pro Asp Pro Arg Asp Cys Pro Gln Glu Cys
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Asp Cys Pro Pro Asn Phe Pro Thr Ala Met Tyr Cys Asp Asn Arg Asn
85 90 95

Leu Lys Tyr Leu Pro Phe Val Pro Ser Arg Met Lys Tyr Val Tyr Phe
100 105 110

Gln Asn Asn Gln Ile Thr Ser Ile Gln Glu Gly Val Phe Asp Asn Ala
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Thr Gly Leu Leu Trp Ile Ala Leu His Gly Asn Gln Ile Thr Ser Asp
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Lys Val Gly Arg Lys Val Phe Ser Lys Leu Arg His Leu Glu Arg Leu
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Tyr Leu Asp His Asn Asn Leu Thr Arg Met Pro Gly Pro Leu Pro Arg
 165 170 175

Ser Leu Arg Glu Leu His Leu Asp His Asn Gln Ile Ser Arg Val Pro
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Asn Asn Ala Leu Glu Gly Leu Glu Asn Leu Thr Ala Leu Tyr Leu Gln
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His Asn Glu Ile Gln Glu Val Gly Ser Ser Met Arg Gly Leu Arg Ser
 210 215 220

Leu Ile Leu Leu Asp Leu Ser Tyr Asn His Leu Arg Lys Val Pro Asp
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Gly Leu Pro Ser Ala Leu Glu Gln Leu Tyr Met Glu His Asn Asn Val
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Tyr Thr Val Pro Asp Ser Tyr Phe Arg Gly Ala Pro Lys Leu Leu Tyr
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Val Arg Leu Ser His Asn Ser Leu Thr Asn Asn Gly Leu Ala Ser Asn
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Thr Phe Asn Ser Ser Ser Leu Leu Glu Leu Asp Leu Ser Tyr Asn Gln
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Leu Gln Lys Ile Pro Pro Val Asn Thr Asn Leu Glu Asn Leu Tyr Leu
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Gln Gly Asn Arg Ile Asn Glu Phe Ser Ile Gln Glu Gly Val Phe Asp
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Asn Ala Thr Gly Leu Leu Trp Ile Ala Leu His Gly Asn Phe Ser Thr
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Ala Met Tyr Cys Asp Asn Arg Asn Leu Lys Tyr Leu Pro Phe Val Pro
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Ser Arg Met Lys Tyr Val Tyr Phe Gln Asn Asn Gln Ile Thr Ser Lys
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Thr Tyr Glu Pro Tyr Pro Tyr Gly Val Asp Glu Gly Pro Ala Tyr Thr
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 Gln Asn Asn Gln Ile Thr Ser Ile Gln Glu Gly Val Phe Asp Asn Ala
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 Thr Gly Leu Leu Trp Ile Ala Leu His Gly Asn Gln Ile Thr Ser Asp
 130 135 140
 Lys Val Gly Arg Lys Val Phe Ser Lys Leu Arg His Leu Glu Arg Leu
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 Tyr Leu Asp His Asn Asn Leu Thr Arg Met Pro Gly Pro Leu Pro Arg
 165 170 175
 Ser Leu Arg Glu Leu His Leu Asp His Asn Gln Ile Ser Arg Val Pro
 180 185 190
 Asn Asn Ala Leu Glu Gly Leu Glu Asn Leu Thr Ala Leu Tyr Leu Gln
 195 200 205
 His Asn Glu Ile Gln Glu Val Gly Ser Ser Met Arg Gly Leu Arg Ser
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 Leu Tyr Leu Leu Asp Leu Ser Tyr Asn His Leu Arg Lys Val Pro Asp
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 Gly Leu Pro Ser Ala Leu Glu Gln Leu Tyr Met Glu His Asn Asn Val
 245 250 255
 Tyr Thr Val Pro Asp Ser Tyr Phe Arg Gly Ala Pro Lys Leu Leu Tyr
 260 265 270
 Val Arg Leu Ser His Asn Ser Leu Thr Asn Asn Gly Leu Ala Ser Asn
 275 280 285
 Thr Phe Asn Ser Ser Ser Leu Leu Glu Leu Asp Leu Ser Tyr Asn Gln
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 Leu Gln Lys Ile Pro Pro Val Asn Thr Ile Ser Ser Phe Cys Thr Val
 305 310 315 320

Val Asp Val Val Asn Phe Ser Gln Leu Gln Val Val Arg Leu Asp Gly
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Leu	Lys	Tyr	Leu	Pro	Phe	Val	Pro	Ser	Arg	Met	Lys	Tyr	Val	Tyr	Phe	85	90	95	
Gln	Asn	Asn	Gln	Ile	Thr	Ser	Ile	Gln	Glu	Gly	Val	Phe	Asp	Asn	Ala	100	105	110	
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Lys	Val	Gly	Arg	Lys	Val	Phe	Ser	Lys	Leu	Arg	His	Leu	Glu	Arg	Leu	130	135	140	
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Gly	Leu	Pro	Ser	Ala	Leu	Glu	Gln	Leu	Tyr	Met	Glu	His	Asn	Asn	Val	225	230	235	240
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Val	Arg	Leu	Ser	His	Asn	Ser	Leu	Thr	Asn	Asn	Gly	Leu	Ala	Ser	Asn	260	265	270	
Thr	Phe	Asn	Ser	Ser	Ser	Leu	Leu	Glu	Leu	Asp	Leu	Ser	Tyr	Asn	Leu	275	280	285	

Glu Asn Leu Tyr Leu Gln Gly Asn Arg Ile Asn Glu Phe Ser Ile Ser
 290 295 300

Ser Phe Cys Thr Val Val Asp Val Val Asn Phe Ser Lys Leu Gln Val
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Ala Pro Leu Cys Arg Arg Leu Ala Ser Leu Ile Glu Ile Leu Glu
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 Cys Pro Arg Phe Leu Arg Met Leu Thr Ser Arg Asn Gly Ser Leu Phe
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 Arg Leu His Cys Thr Arg Asn Tyr Ile His Met His Leu Phe Val Ser
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 Phe Ile Leu Arg Ala Leu Ser Asn Phe Ile Lys Asp Ala Val Leu Phe
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 Ser Ser Asp Asp Val Thr Tyr Cys Asp Ala His Arg Ala Gly Cys Lys
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 Leu Leu Val Glu Gly Leu Tyr Leu His Thr Leu Leu Ala Ile Ser Phe
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 225 230 235 240
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Glu Asp Val Gly Cys Pro Ser Leu Arg Cys Trp Asp Ile Asn Ala Asn
260 265 270

Ala Ser Ile Trp Trp Ile Ile Arg Gly Pro Val Ile Leu Ser Ile Leu
275 280 285

Ile Asn Phe Ile Leu Phe Ile Asn Ile Leu Arg Ile Leu Met Arg Lys
290 295 300

Leu Arg Thr Gln Glu Thr Arg Gly Asn Glu Val Ser His Tyr Lys Arg
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Leu Ala Arg Ser Thr Leu Leu Leu Ile Pro Leu Phe Gly Ile His Tyr
325 330 335

Ile Val Phe Ala Phe Ser Pro Glu Asp Ala Met Glu Ile Gln Leu Phe
340 345 350

Phe Glu Leu Ala Leu Gly Ser Phe Gln Gly Leu Val Val Ala Val Leu
355 360 365

Tyr Cys Phe Leu Asn Gly Glu Val Gln Leu Glu Val Gln Lys Lys Trp
370 375 380

Gln Gln Trp His Leu Arg Glu Phe Pro Leu His Pro Val Ala Ser Phe
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Arg Thr Ser Ile Ile
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 <213> Homo sapiens

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 Tyr Ile His Met His Leu Phe Val Ser Phe Ile Leu Arg Ala Leu Ser
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 Cys Asp Ala His Arg Gly Leu Val Val Ala Val Leu Tyr Cys Phe Leu
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 <212> DNA
 <213> Homo sapiens

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 <212> PRT
 <213> Homo sapiens

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<211> 1449
<212> DNA
<213> Homo sapiens

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<210> 16
<211> 302
<212> PRT
<213> Homo sapiens

<400> 16
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280

285

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<210> 17

<211> 8250

<212> DNA

<213> Homo sapiens

<400> 17

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<211> 473
<212> PRT
<213> Homo sapiens

<400> 18
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 Lys Ile Thr Glu Asn Pro Val Ser Thr Gly Glu Lys Asn Ala Ala Thr
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 Gly Val Gln Gly Gly Ser Arg His Arg Arg Pro Ala Pro Met Gly Cys
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 420 425 430
 Ala Gly Pro Gly Thr Gly Ala Gln Pro Leu Trp Gly Val Arg Ser Gly

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<210> 19

<211> 4582

<212> DNA

<213> Homo sapiens

<400> 19

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<211> 290

<212> PRT

<213> Homo sapiens

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Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu
35 40 45

Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile
50 55 60

Ile Gln Phe Val His Gly Glu Glu Asp Leu Lys Val Gln His Ser Ser
65 70 75 80

Tyr Arg Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser Leu Gly Asn
85 90 95

Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val Tyr
100 105 110

Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val
115 120 125

Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val
130 135 140

Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr
145 150 155 160

Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser
165 170 175

Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn
180 185 190

Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr
195 200 205

Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu
210 215 220

Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His
225 230 235 240

Leu Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr
 245 250 255

Phe Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys
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Gly Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu Glu
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Glu Thr
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 <211> 745
 <212> DNA
 <213> Homo sapiens

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Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu

35	40	45
Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile		
50	55	60
Ile Gln Phe Val His Gly Glu Glu Asp Leu Lys Val Gln His Ser Ser		
65	70	75 80
Tyr Arg Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser Leu Gly Asn		
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Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val Tyr		
100	105	110
Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val		
115	120	125
Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val		
130	135	140
Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr		
145	150	155 160
Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser		
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Gly Asp

<210> 23

<211> 866

<212> DNA

<213> Homo sapiens

<400> 23

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<211> 267

<212> PRT

<213> Homo sapiens

<400> 24

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 20 25 30

Arg Asp Gly Glu Trp Pro Trp Gln Ala Ser Ile Gln His Arg Gly Ala
 35 40 45

His Val Cys Gly Gly Ser Leu Ile Ala Pro Gln Trp Val Leu Thr Ala
 50 55 60

Ala His Cys Phe Pro Arg Ala Leu Pro Ala Glu Tyr Arg Val Arg Leu
 65 70 75 80

Gly Ala Leu Arg Leu Gly Ser Thr Ser Pro Arg Thr Leu Ser Val Pro
 85 90 95

Val Arg Arg Val Leu Leu Pro Pro Asp Tyr Ser Glu Asp Gly Ala Arg
 100 105 110

Gly Asp Leu Ala Leu Leu Gln Leu Arg Arg Pro Val Pro Leu Ser Ala
 115 120 125

Arg Val Gln Pro Val Cys Leu Pro Val Pro Gly Ala Arg Pro Pro Pro
 130 135 140

Gly Thr Pro Cys Arg Val Thr Gly Trp Gly Ser Leu Arg Pro Gly Val
 145 150 155 160

Pro Leu Pro Glu Trp Arg Pro Leu Gln Gly Val Arg Val Pro Leu Leu
 165 170 175

Asp Ser Arg Thr Cys Asp Gly Leu Tyr His Val Gly Ala Asp Val Pro
 180 185 190

Gln Ala Glu Arg Ile Val Leu Pro Gly Ser Leu Cys Ala Gly Tyr Pro

195

200

205

Gln Gly His Lys Asp Ala Cys Gln Val Cys Thr Gln Pro Pro Gln Pro
 210 215 220

Pro Glu Ser Pro Pro Cys Ala Gln His Pro Pro Ser Leu Asn Ser Arg
 225 230 235 240

Thr Gln Asp Ile Pro Thr Gln Ala Gln Asp Pro Gly Leu Gln Pro Arg
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Gly Thr Thr Pro Gly Val Trp Asn Pro Glu Asn
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<211> 1020

<212> DNA

<213> Homo sapiens

<400> 25

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<210> 26

<211> 280

<212> PRT

<213> Homo sapiens

<400> 26

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 20 25 30

Met Ser Ser Arg Ile Val Gly Gly Arg Asp Gly Arg Asp Gly Glu Trp
 35 40 45

Pro Trp Gln Ala Ser Ile Gln His Arg Gly Ala His Val Cys Gly Gly
 50 55 60

Ser Leu Ile Ala Pro Gln Trp Val Leu Thr Ala Ala His Cys Phe Pro
 65 70 75 80

Arg Arg Ala Leu Pro Ala Glu Tyr Arg Val Arg Leu Gly Ala Leu Arg
 85 90 95

Leu Gly Ser Thr Ser Pro Arg Thr Leu Ser Val Pro Val Arg Arg Val
 100 105 110

Leu Leu Pro Pro Asp Tyr Ser Glu Asp Gly Ala Arg Gly Asp Leu Ala
 115 120 125

Leu Leu Gln Leu Arg Arg Pro Val Pro Leu Ser Ala Arg Val Gln Pro
 130 135 140

Val Cys Leu Pro Val Pro Gly Ala Arg Pro Pro Pro Gly Thr Pro Cys
 145 150 155 160

Arg Val Thr Gly Trp Gly Ser Leu Arg Pro Gly Val Pro Leu Pro Glu
 165 170 175

Trp Arg Pro Leu Gln Gly Val Arg Val Pro Leu Leu Asp Ser Arg Thr
 180 185 190

Cys Asp Gly Leu Tyr His Val Gly Ala Asp Val Pro Gln Ala Glu Arg
 195 200 205

Ile Val Leu Pro Gly Ser Leu Cys Ala Gly Tyr Pro Gln Gly His Lys
 210 215 220

Asp Ala Cys Gln Gly Asp Ser Gly Gly Pro Leu Thr Cys Leu Gln Ser
 225 230 235 240

Gly Ser Trp Val Leu Val Gly Val Val Ser Trp Gly Lys Gly Cys Ala
 245 250 255

Leu Pro Asn Arg Pro Gly Val Tyr Thr Ser Val Ala Thr Tyr Ser Pro
 260 265 270

Trp Ile Gln Ala Arg Val Ser Phe
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<210> 27
 <211> 1267
 <212> DNA
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 <211> 373
 <212> PRT
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 Met Asn Thr Ser Glu Ile Ile Ile Tyr Asn Gly Tyr Pro Ser Glu Glu

35 40 45
 Tyr Glu Val Thr Thr Glu Asp Gly Tyr Ile Leu Leu Val Asn Arg Ile
 50 55 60
 Pro Tyr Gly Arg Thr His Ala Arg Ser Thr Gly Pro Arg Pro Val Val
 65 70 75 80
 Tyr Met Gln His Ala Leu Phe Ala Asp Asn Ala Tyr Trp Leu Glu Asn
 85 90 95
 Tyr Ala Asn Gly Ser Leu Gly Phe Leu Leu Ala Asp Ala Gly Tyr Asp
 100 105 110
 Val Trp Met Gly Asn Ser Arg Gly Asn Thr Trp Ser Arg Arg His Lys
 115 120 125
 Thr Leu Ser Glu Thr Asp Glu Lys Phe Trp Ala Phe Gly Phe Asp Glu
 130 135 140
 Met Ala Lys Tyr Asp Leu Pro Gly Val Ile Asp Phe Ile Val Asn Lys
 145 150 155 160
 Thr Gly Gln Glu Lys Leu Tyr Phe Ile Gly His Ser Leu Gly Thr Thr
 165 170 175
 Ile Gly Phe Val Ala Phe Ser Thr Met Pro Glu Leu Ala Gln Arg Ile
 180 185 190
 Lys Met Asn Phe Ala Leu Gly Pro Thr Ile Ser Phe Lys Tyr Pro Thr
 195 200 205
 Gly Ile Phe Thr Arg Phe Phe Leu Leu Pro Asn Ser Ile Ile Lys Ala
 210 215 220
 Val Phe Gly Thr Lys Gly Phe Phe Leu Glu Asp Lys Lys Thr Lys Ile
 225 230 235 240
 Ala Ser Thr Lys Ile Cys Asn Asn Lys Ile Leu Trp Leu Ile Cys Ser
 245 250 255
 Glu Phe Met Ser Leu Trp Ala Gly Ser Asn Lys Lys Asn Met Asn Gln
 260 265 270
 Leu Tyr His Ser Asp Glu Phe Arg Ala Tyr Asp Trp Gly Asn Asp Ala
 275 280 285
 Asp Asn Met Lys His Tyr Asn Gln Ser His Pro Pro Ile Tyr Asp Leu

290	295	300
Thr Ala Met Lys Val Pro Thr Ala Ile Trp Ala Gly Gly His Asp Val		
305	310	315 320
Leu Val Thr Pro Gln Asp Val Ala Arg Ile Leu Pro Gln Ile Lys Ser		
	325	330 335
Leu His Tyr Phe Lys Leu Leu Pro Asp Trp Asn His Phe Asp Phe Val		
	340	345 350
Trp Gly Leu Asp Ala Pro Gln Arg Met Tyr Ser Glu Ile Ile Ala Leu		
	355	360 365
Met Lys Ala Tyr Ser		
370		

<210> 29
 <211> 1267
 <212> DNA
 <213> Homo sapiens

<400> 29
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 actccttgtc gacagaattc cttatgggcg aacacatgct gggagcacag gtccccggcc 240
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 aacaatgagg ttgtcccccgc gcacctggg ggagatgcac agtggagtct gttttccaag 1260
 tcaattg 1267

Val Phe Gly Thr Lys Gly Phe Phe Leu Glu Asp Lys Lys Thr Lys Ile
225 230 235 240

Ala Ser Asn Lys Ile Cys Asn Asn Lys Ile Leu Trp Leu Ile Cys Ser
245 250 255

Glu Phe Met Ser Leu Trp Ala Gly Ser Asn Lys Lys Asn Met Asn Gln
260 265 270

Leu Tyr His Ser Asp Glu Phe Arg Ala Tyr Asp Trp Gly Asn Gly Ala
275 280 285

Asp Asn Met Lys His Tyr Asn Gln Ser His Pro Pro Ile Tyr Asp Leu
290 295 300

Thr Ala Met Lys Val Pro Thr Ala Ile Trp Ala Gly Gly His Asp Val
305 310 315 320

Leu Val Thr Pro Gln Asp Val Ala Arg Ile Leu Pro Gln Ile Lys Ser
325 330 335

Leu His Tyr Phe Lys Leu Leu Pro Asp Trp Asn His Phe Asp Phe Val
340 345 350

Trp Gly Leu Asp Ala Pro Gln Arg Met Tyr Ser Glu Ile Ile Ala Leu
355 360 365

Met Lys Ala Tyr Ser
370

<210> 31

<211> 1195

<212> DNA

<213> Homo sapiens

<400> 31

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<210> 32

<211> 349

<212> PRT

<213> Homo sapiens

<400> 32

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 20 25 30

Met Asn Thr Ser Glu Ile Ile Ile Tyr Asn Gly Tyr Pro Ser Glu Glu
 35 40 45

Tyr Glu Val Thr Thr Glu Asp Gly Tyr Ile Leu Leu Val Asn Arg Ile
 50 55 60

Pro Tyr Gly Arg Thr His Ala Arg Ser Thr Gly Pro Arg Pro Val Val
 65 70 75 80

Tyr Met Gln His Ala Leu Phe Ala Asp Asn Ala Tyr Trp Leu Glu Asn
 85 90 95

Tyr Ala Asn Gly Ser Leu Gly Phe Leu Leu Ala Asp Ala Gly Tyr Asp
 100 105 110

Val Trp Met Gly Asn Ser Arg Gly Asn Thr Trp Ser Arg Arg His Lys
 115 120 125

Thr Leu Ser Glu Thr Asp Glu Lys Phe Trp Ala Phe Gly Phe Asp Glu
 130 135 140

Met Ala Lys Tyr Asp Leu Pro Gly Val Ile Asp Phe Ile Val Asn Lys
 145 150 155 160

Thr Gly Gln Glu Lys Leu Tyr Phe Ile Gly His Ser Leu Gly Thr Thr

165	170	175
Ile Gly Phe Val Ala Phe Ser Thr Met Pro Glu Leu Ala Gln Arg Ile		
180	185	190
Lys Met Asn Phe Ala Leu Gly Pro Thr Ile Ser Phe Lys Tyr Pro Thr		
195	200	205
Gly Ile Phe Thr Arg Phe Phe Leu Leu Pro Asn Ser Ile Ile Lys Ala		
210	215	220
Val Phe Gly Thr Lys Gly Phe Phe Leu Glu Asp Lys Lys Thr Lys Ile		
225	230	235
Ala Ser Thr Lys Ile Cys Asn Asn Lys Ile Leu Trp Leu Ile Cys Ser		
245	250	255
Glu Phe Met Ser Leu Trp Ala Gly Ser Asn Lys Lys Asn Met Asn Gln		
260	265	270
Ser His Pro Pro Ile Tyr Asp Leu Thr Ala Met Lys Val Pro Thr Ala		
275	280	285
Ile Trp Ala Gly Gly His Asp Val Leu Val Thr Pro Gln Asp Val Ala		
290	295	300
Arg Ile Leu Pro Gln Ile Lys Ser Leu His Tyr Phe Lys Leu Leu Pro		
305	310	315
Asp Trp Asn His Phe Asp Phe Val Trp Gly Leu Asp Ala Pro Gln Arg		
325	330	335
Met Tyr Ser Glu Ile Ile Ala Leu Met Lys Ala Tyr Ser		
340	345	

<210> 33
 <211> 1608
 <212> DNA
 <213> Homo sapiens

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 agcctgctca gccgcgctg ggtgctctcg gctgcgcact gcttccaaa cagtcgttac 240
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tttctctctt cccctgatg ccacaagttg agggaggtcc ttggggcatg gtatgatgcc 1560
ccagagctct agcagcccct aggtgaggct gtgggcaccc aggcagct 1608

<210> 34

<211> 426

<212> PRT

<213> Homo sapiens

<400> 34

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Gly Leu Gly Lys Pro Glu Ala Cys Gly His Arg Glu Ile His Ala Leu
20 25 30

Val Ala Gly Gly Val Glu Ser Ala Arg Gly Arg Trp Pro Trp Gln Ala
35 40 45

Ser Leu Arg Leu Arg Arg Arg His Arg Cys Gly Gly Ser Leu Leu Ser
50 55 60

Arg Arg Trp Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Arg Tyr
65 70 75 80

Lys Val Gln Asp Ile Ile Val Asn Pro Asp Ala Leu Gly Val Leu Arg
85 90 95

Asn Asp Ile Ala Leu Leu Arg Leu Ala Ser Ser Val Thr Tyr Asn Ala

100 105 110
 Tyr Ile Gln Pro Ile Cys Ile Glu Ser Ser Thr Phe Asn Phe Val His
 115 120 125
 Arg Pro Asp Cys Trp Val Thr Gly Trp Gly Leu Ile Ser Pro Ser Gly
 130 135 140
 Thr Pro Leu Pro Pro Pro Tyr Asn Leu Arg Glu Ala Gln Val Thr Ile
 145 150 155 160
 Leu Asn Asn Thr Arg Cys Asn Tyr Leu Phe Glu Gln Pro Ser Ser Arg
 165 170 175
 Ser Met Ile Trp Asp Ser Met Phe Cys Ala Gly Ala Glu Asp Gly Ser
 180 185 190
 Val Asp Thr Cys Lys Gly Asp Ser Gly Gly Pro Leu Val Cys Asp Lys
 195 200 205
 Asp Gly Leu Trp Tyr Gln Val Gly Ile Val Ser Trp Gly Met Asp Cys
 210 215 220
 Gly Gln Pro Asn Arg Pro Gly Val Tyr Thr Asn Ile Ser Val Tyr Phe
 225 230 235 240
 His Trp Ile Arg Arg Val Met Ser His Ser Thr Pro Arg Pro Asn Pro
 245 250 255
 Ser Pro Ala Val Ala Ala Pro Cys Pro Ala Val Gly Ser Leu Thr Pro
 260 265 270
 Ala Ala Ile Leu Ser Ala Pro Glu Thr Val Arg Leu Gln Trp Gly Pro
 275 280 285
 Gln Tyr Trp Leu Thr Ser Ser Gly Leu Trp Ala Leu Gln Gly Gln Gly
 290 295 300
 Trp Asp Cys Leu Leu Asp Gln Ile Pro Ala Pro Phe Val Ser Phe Ala
 305 310 315 320
 Asn Lys Tyr Val Cys Met Phe Lys Leu Met Pro Tyr Arg Ala Phe Cys
 325 330 335
 Gly Pro Lys Gly Phe Arg Gly Gln Leu Pro Pro Leu His Ser Cys Pro
 340 345 350
 Val Gln Ala Lys Thr Pro Pro Glu Leu Leu Asn Cys Tyr Pro Gly Phe

355		360		365
Cys Cys Glu Gln Gln His Pro Leu Val Ile Ser Ile Gly Lys Ile Ile				
370		375		380
Asp Gly Arg Ala Val Val Leu Gln Cys Val Arg Gly Val Gly Arg His				
385		390		395 400
Gly Leu Gly Val Pro Trp Arg Lys Cys Ser Gln Cys Ser His Pro Arg				
	405		410	415
Val Pro Asn His Thr Asn Ala Arg Cys Ser				
	420		425	

<210> 35
 <211> 1539
 <212> DNA
 <213> Homo sapiens

<400> 35
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<210> 36
 <211> 512
 <212> PRT
 <213> Homo sapiens

<400> 36
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Gly Ala Ala Ser Ala Val Ser Leu Ala Gly Ala Ser Leu Val Leu Ser
 20 25 30

Leu Leu Gln Arg Val Ala Ser Tyr Ala Arg Lys Trp Gln Gln Met Arg
 35 40 45

Pro Ile Pro Thr Val Ala Arg Ala Tyr Pro Leu Val Gly His Ala Leu
 50 55 60

Leu Met Lys Pro Asp Gly Arg Glu Phe Phe Gln Gln Ile Ile Glu Tyr
 65 70 75 80

Thr Glu Glu Tyr Arg His Met Pro Leu Leu Lys Leu Trp Val Gly Pro
 85 90 95

Val Pro Met Val Ala Leu Tyr Asn Ala Glu Asn Val Glu Asn Pro Gly
 100 105 110

Ser Glu Lys Arg Ala Arg Arg Ala Asp Arg Ile Ser Ala Ala Val Gly
 115 120 125

Leu Val Leu Ile Glu Val Gly Val Val Asp Ala Asp Gly Asp Leu Ser
 130 135 140

Arg Val Gly Asp Leu Ser Lys Lys Pro Asp Ile Phe Phe Val Thr Thr
 145 150 155 160

Tyr Phe Ile Ser Ser Thr Gly Asn Lys Trp Arg Ser Arg Arg Lys Met
 165 170 175

Leu Thr Pro Thr Phe His Phe Thr Ile Leu Glu Asp Phe Leu Asp Ile
 180 185 190

Met Asn Glu Gln Ala Asn Ile Leu Val Lys Lys Leu Glu Lys His Ile
 195 200 205

Asn Gln Glu Ala Phe Asn Cys Phe Phe Tyr Ile Thr Leu Cys Ala Leu
 210 215 220

Asp Ile Ile Cys Glu Lys Met Ala Gln Thr Gly Asn His Thr Pro Leu
225 230 235 240

Gly Arg Gln Met Gly Gly Arg Glu Arg Val Thr Gly Ser Ser Ala Arg
245 250 255

Phe Tyr Asp Arg Thr Gly Leu Leu Arg Ser Ser Ser His Ala Gln Gly
260 265 270

Cys Glu Trp Gly Arg His Gly Ala Thr Ala Gln Gly Gly Glu Gly Lys
275 280 285

Glu Glu Gln Glu Gln Gly Val Glu Val Asp Arg Thr Arg Glu Glu Gly
290 295 300

Lys Gly Arg Lys Lys Asn Ser Glu Ile Tyr Lys Asp Lys Ala Gly Ser
305 310 315 320

Met Gly Lys Asn Ile Gly Ala Gln Ser Asn Asp Asp Ser Glu Tyr Val
325 330 335

Arg Ala Val Tyr Arg Met Ser Glu Met Ile Phe Arg Arg Ile Lys Met
340 345 350

Pro Trp Leu Trp Leu Asp Leu Trp Tyr Leu Met Phe Lys Glu Gly Trp
355 360 365

Glu His Lys Lys Ser Leu Gln Ile Leu His Thr Phe Thr Asn Ser Val
370 375 380

Ile Ala Glu Arg Ala Asn Glu Met Asn Ala Asn Glu Asp Cys Arg Gly
385 390 395 400

Asp Gly Arg Gly Ser Ala Pro Ser Lys Asn Lys Arg Arg Ala Phe Leu
405 410 415

Asp Leu Leu Leu Ser Val Thr Asp Asp Glu Gly Asn Arg Leu Ser His
420 425 430

Glu Asp Ile Arg Glu Glu Val Asp Thr Phe Met Phe Glu Ala Gly Ala
435 440 445

Gly Cys Asn Cys Pro Gly Ser Ser Cys Glu Leu Lys Val Gly Val Leu
450 455 460

Pro Cys Ser Thr Ser Val Pro Arg Cys Phe Thr Phe Ala Leu Ser Cys
465 470 475 480

Phe Leu Gln Leu Ala Asp Glu Met Lys Ser Glu Val Gln Gln Thr Pro
485 490 495

Leu Met His Leu Asp Gln Ala Ser Ala His Lys Phe Lys Glu Ser Tyr
500 505 510

<210> 37
<211> 813
<212> DNA
<213> Homo sapiens

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<210> 38
<211> 268
<212> PRT
<213> Homo sapiens

<400> 38
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20 25 30
Arg Gly Phe Thr Leu Ser Gln Leu Phe Ala Ile Phe Ala Phe Gly Ser
35 40 45

Cys Gly Ser Tyr Ser Gly Glu Thr Gly Ala Met Val Arg Cys Asn Asn
 50 55 60
 Glu Ala Lys Asp Val Ser Ser Ile Ile Val Ala Phe Gly Tyr Pro Phe
 65 70 75 80
 Arg Leu Arg Arg Ile Gln Tyr Glu Met Pro Leu Cys Asp Glu Glu Ser
 85 90 95
 Ser Ser Lys Thr Met His Leu Met Gly Asp Phe Ser Ala Pro Ala Glu
 100 105 110
 Phe Phe Val Thr Leu Gly Ile Phe Ser Phe Phe Tyr Thr Met Ala Ala
 115 120 125
 Leu Val Ile Tyr Leu Arg Phe His Asn Leu Tyr Thr Glu Asn Lys Arg
 130 135 140
 Phe Pro Leu Val Asp Phe Cys Val Thr Val Ser Phe Thr Phe Phe Trp
 145 150 155 160
 Leu Val Ala Ala Ala Ala Trp Gly Lys Gly Leu Thr Asp Val Lys Gly
 165 170 175
 Ala Thr Arg Pro Ser Ser Leu Thr Ala Ala Met Ser Val Cys His Gly
 180 185 190
 Glu Glu Ala Val Cys Ser Ala Gly Ala Thr Pro Ser Met Gly Leu Ala
 195 200 205
 Asn Ile Ser Val Leu Phe Gly Phe Ile Asn Phe Phe Leu Trp Ala Gly
 210 215 220
 Asn Cys Trp Phe Val Phe Lys Glu Thr Pro Trp His Gly Gln Gly Gln
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 Gly Gln Asp Gln Asp Gln Asp Gln Asp Gln Gly Gln Gly Pro Ser Gln
 245 250 255
 Glu Ser Ala Ala Glu Gln Gly Ala Val Glu Lys Gln
 260 265

<210> 39
 <211> 2542
 <212> DNA
 <213> Homo sapiens

<400> 39

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<210> 40

<211> 686

<212> PRT

<213> Homo sapiens

<400> 40

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20 25 30

Arg Thr Phe Lys Asp Glu Thr Phe Pro Ala Ala Asp Ser Ser Ile Gly
35 40 45

Gln Lys Leu Leu Gln Glu Lys Arg Leu Ser Asn Val Ile Trp Lys Arg
50 55 60

Pro Asp Leu Pro Gly Gly Pro Pro His Phe Ile Leu Asp Asp Ile Ser
65 70 75 80

Arg Phe Asp Ile Gln Gln Gly Gly Ala Gly Asp Cys Trp Phe Leu Ala
85 90 95

Ala Leu Gly Ser Leu Thr Gln Asn Pro Gln Tyr Arg Gln Lys Ile Leu
100 105 110

Met Val Gln Ser Phe Ser His Gln Tyr Ala Gly Ile Phe Arg Phe Arg
115 120 125

Phe Trp Gln Cys Gly Gln Trp Val Glu Val Val Ile Asp Asp Arg Leu
130 135 140

Pro Val Gln Gly Asp Lys Cys Leu Phe Val Arg Pro Arg His Gln Asn
145 150 155 160

Gln Glu Phe Trp Pro Cys Leu Leu Glu Lys Ala Tyr Ala Lys Leu Leu
165 170 175

Gly Ser Tyr Ser Asp Leu His Tyr Gly Phe Leu Glu Asp Ala Leu Val
180 185 190

Asp Leu Thr Gly Gly Val Ile Thr Asn Ile His Leu His Ser Ser Pro
195 200 205

Val Asp Leu Val Lys Ala Val Lys Thr Ala Thr Lys Ala Gly Ser Leu
210 215 220

Ile Thr Cys Ala Thr Pro Ser Gly Val Ser His Asp Thr Ala Gln Ala
225 230 235 240

Met	Glu	Asn	Gly	Leu	Val	Ser	Leu	His	Ala	Tyr	Thr	Val	Thr	Gly	Ala	245	250	255	
Glu	Gln	Val	Gln	Tyr	Arg	Arg	Gly	Trp	Glu	Glu	Ile	Ile	Ser	Leu	Trp	260	265	270	
Asn	Pro	Trp	Gly	Trp	Gly	Glu	Ala	Glu	Trp	Arg	Gly	Arg	Trp	Ser	Asp	275	280	285	
Gly	Tyr	Gly	Phe	Trp	Glu	Glu	Thr	Cys	Asp	Pro	Arg	Lys	Ser	Gln	Leu	290	295	300	
His	Lys	Lys	Arg	Glu	Asp	Gly	Glu	Phe	Trp	Tyr	Leu	Pro	Phe	Leu	Tyr	305	310	315	320
Asn	Gly	Val	Leu	Asn	Leu	Leu	Leu	Pro	Lys	Ser	Ser	Ile	Pro	Thr	Leu	325	330	335	
Phe	Pro	Glu	His	Leu	Arg	Arg	Trp	Lys	Ile	Ala	Leu	Thr	Asp	Pro	Arg	340	345	350	
Trp	Ala	Gly	Pro	Ser	Pro	Gly	Gly	Ala	Cys	Ile	His	Thr	His	Ser	His	355	360	365	
Val	Pro	Asp	Asn	Lys	Phe	Phe	Lys	Arg	Glu	Glu	Glu	Lys	Glu	Lys	Glu	370	375	380	
Cys	Arg	Asp	Glu	Thr	Asn	Glu	Pro	Ser	Cys	Ser	Val	Leu	Leu	Ala	Phe	385	390	395	400
Leu	Phe	Thr	Ser	Glu	Phe	Leu	Asn	Leu	Pro	Phe	Ser	Leu	Phe	Pro	Thr	405	410	415	
Gly	Trp	Leu	Thr	Gly	Met	Ala	Gln	Arg	Arg	Pro	Cys	Pro	Ala	Pro	Leu	420	425	430	
Leu	Leu	Ser	Ala	Gly	Gly	Val	Leu	Phe	Phe	Ser	Ser	Phe	Arg	Asn	Thr	435	440	445	
Val	Gln	Ser	Ser	Asn	Asn	Lys	Phe	Arg	Arg	Asn	Phe	Thr	Met	Thr	Tyr	450	455	460	
His	Leu	Ser	Pro	Gly	Asn	Tyr	Val	Val	Val	Ala	Gln	Thr	Arg	Arg	Lys	465	470	475	480
Ser	Ala	Glu	Phe	Leu	Leu	Arg	Ile	Phe	His	Phe	Asn	Leu	Arg	Met	Lys	485	490	495	

Val Gly Met Gln Gln Gly Leu Ala Gly Glu Pro His Trp Pro His Pro
500 505 510

Ile Pro Lys Ser Phe Arg Leu Leu Leu Tyr Thr Ser Arg Cys Pro Gln
515 520 525

Pro Met Lys Arg Glu Thr Pro His Pro Thr Val Asn Thr Ser Val Leu
530 535 540

Pro Val Leu Leu Ser Ser Gly Pro Pro Gly Asp Met Phe Ser Leu Asp
545 550 555 560

Glu Cys Arg Ser Leu Val Ala Leu Met Glu Val Ser Phe Ala Val Ile
565 570 575

Pro Pro Met Leu Met Phe Ser Arg Arg Phe Arg Gln Ala Leu Glu Ser
580 585 590

Ser Ser Leu Thr Arg Ser Pro Val Ala Pro Asp Phe Leu Arg Gly Ile
595 600 605

Phe Ile Ser Arg Glu Leu Leu His Leu Val Thr Leu Arg Tyr Ser Asp
610 615 620

Ser Val Gly Arg Val Ser Phe Pro Ser Leu Val Cys Phe Leu Met Arg
625 630 635 640

Leu Glu Ala Met Ala Ser Ser Gln Asn Leu Pro Phe Phe Ile Leu Glu
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Thr Phe Arg Asn Leu Ser Lys Asp Gly Lys Gly Leu Tyr Leu Thr Glu
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Met Glu Val Arg Phe Gly Lys Lys Tyr Phe Lys Val His Met
675 680 685

<210> 41

<211> 1422

<212> DNA

<213> Homo sapiens

<400> 41

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<210> 42

<211> 473

<212> PRT

<213> Homo sapiens

<400> 42

Met Ala Ala Ala Gln Pro Lys Tyr Pro Ala Gly Ala Thr Ala Arg Arg
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Leu Ala Arg Gly Cys Trp Ser Ala Leu Trp Asp Tyr Glu Thr Pro Lys
20 25 30

Val Ile Val Val Arg Asn Arg Arg Leu Gly Val Leu Tyr Arg Ala Val
35 40 45

Gln Leu Leu Ile Leu Leu Tyr Phe Val Trp Tyr Val Phe Ile Val Gln
50 55 60

Lys Ser Tyr Gln Glu Ser Glu Thr Gly Pro Glu Ser Ser Ile Ile Thr
65 70 75 80

Lys Val Lys Gly Ile Thr Thr Ser Glu His Lys Val Trp Asp Val Glu
85 90 95

Glu Tyr Val Lys Pro Pro Glu Ser Ile Arg Val His Asn Ala Thr Cys
100 105 110

Leu Ser Asp Ala Asp Cys Val Ala Gly Glu Leu Asp Met Leu Gly Asn			
115	120	125	
Gly Leu Arg Thr Gly Arg Cys Val Pro Tyr Tyr Gln Gly Pro Ser Lys			
130	135	140	
Thr Cys Glu Val Phe Gly Trp Cys Pro Val Glu Asp Gly Ala Ser Val			
145	150	155	160
Ser Gln Phe Leu Gly Thr Met Ala Pro Asn Phe Thr Ile Leu Ile Lys			
	165	170	175
Asn Ser Ile His Tyr Pro Lys Phe His Phe Ser Lys Gly Asn Ile Ala			
	180	185	190
Asp Arg Thr Asp Gly Tyr Leu Lys Arg Cys Thr Phe His Glu Ala Ser			
	195	200	205
Asp Leu Tyr Cys Pro Ile Phe Lys Leu Gly Phe Ile Val Glu Lys Ala			
	210	215	220
Gly Glu Ser Phe Thr Glu Leu Ala His Lys Gly Gly Val Ile Gly Val			
225	230	235	240
Ile Ile Asn Trp Asp Cys Asp Leu Asp Leu Pro Ala Ser Glu Cys Asn			
	245	250	255
Pro Lys Tyr Ser Phe Arg Arg Leu Asp Pro Lys His Val Pro Ala Ser			
	260	265	270
Ser Gly Tyr Asn Phe Arg Phe Ala Lys Tyr Tyr Lys Ile Asn Gly Thr			
	275	280	285
Thr Thr Arg Thr Leu Ile Lys Ala Tyr Gly Ile Arg Ile Asp Val Ile			
	290	295	300
Val His Gly Gln Ala Gly Lys Phe Ser Leu Ile Pro Thr Ile Ile Asn			
305	310	315	320
Leu Ala Thr Ala Leu Thr Ser Val Gly Val Val Arg Asn Pro Leu Trp			
	325	330	335
Gly Pro Ser Gly Cys Gly Gly Ser Thr Arg Pro Leu His Thr Gly Leu			
	340	345	350
Cys Trp Pro Gln Gly Ser Phe Leu Cys Asp Trp Ile Leu Leu Thr Phe			
	355	360	365

Met Asn Lys Asn Lys Val Tyr Ser His Lys Lys Phe Asp Lys Val Cys
 370 375 380

Thr Pro Ser His Pro Ser Gly Ser Trp Pro Val Thr Leu Ala Arg Val
 385 390 395 400

Leu Gly Gln Ala Pro Pro Glu Pro Gly His Arg Ser Glu Asp Gln His
 405 410 415

Pro Ser Pro Pro Ser Gly Gln Glu Gly Gln Gln Gly Ala Glu Cys Gly
 420 425 430

Pro Ala Phe Pro Pro Leu Arg Pro Cys Pro Ile Ser Ala Pro Ser Glu
 435 440 445

Gln Met Val Asp Thr Pro Ala Ser Glu Pro Ala Gln Ala Ser Thr Pro
 450 455 460

Thr Asp Pro Lys Gly Leu Ala Gln Leu
 465 470

<210> 43

<211> 1823

<212> DNA

<213> Homo sapiens

<400> 43

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ataatcaaaa aaaaaaaaaa aaa 1823

<210> 44

<211> 525

<212> PRT

<213> Homo sapiens

<400> 44

Met Asp His Thr Ser Pro Thr Tyr Met Leu Ala Asn Leu Thr His Leu
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His Ser Glu Gln Leu Leu Gln Gly Leu Asn Leu Leu Arg Gln His His
20 25 30

Glu Leu Cys Asp Ile Ile Leu Arg Val Gly Asp Val Lys Ile His Ala
35 40 45

His Lys Val Val Leu Ala Ser Val Ser Pro Tyr Phe Lys Ala Met Phe
50 55 60

Thr Gly Asn Leu Ser Glu Lys Glu Asn Ser Glu Val Glu Phe Gln Cys
65 70 75 80

Ile Asp Glu Thr Ala Leu Gln Ala Ile Val Glu Tyr Ala Tyr Thr Gly
85 90 95

Thr Val Phe Ile Ser Gln Asp Thr Val Glu Ser Leu Leu Pro Ala Ala
100 105 110

Asn Leu Leu Gln Ile Lys Leu Val Leu Lys Glu Cys Cys Ala Phe Leu
115 120 125

Glu Ser Gln Leu Asp Pro Gly Asn Cys Ile Gly Ile Ser Arg Phe Ala
130 135 140

Glu Thr Tyr Gly Cys Arg Asp Leu Tyr Leu Ala Ala Thr Lys Tyr Ile

405	410	415
Ala Ser Met Ala Asp Lys Arg Ile His Phe Gly Val Gly Val Met Leu		
420	425	430
Gly Phe Ile Phe Val Val Gly Gly His Asn Gly Val Ser His Leu Ser		
435	440	445
Ser Ile Glu Arg Tyr Asp Pro His Gln Asn Gln Trp Thr Val Cys Arg		
450	455	460
Pro Met Lys Glu Pro Arg Thr Gly Val Gly Ala Ala Val Ile Asp Asn		
465	470	475
Tyr Leu Tyr Val Val Gly Gly His Ser Gly Ser Ser Tyr Leu Asn Thr		
485	490	495
Val Gln Lys Tyr Asp Pro Ile Ser Asp Thr Trp Leu Asp Ser Ala Gly		
500	505	510
Met Ile Tyr Cys Arg Cys Asn Phe Gly Leu Thr Ala Leu		
515	520	525

<210> 45

<211> 1970

<212> DNA

<213> Homo sapiens

<400> 45

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<210> 46

<211> 508

<212> PRT

<213> Homo sapiens

<400> 46

Met Ala Lys Ser Asn Gly Glu Asn Gly Pro Arg Ala Pro Ala Ala Gly
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Glu Ser Leu Ser Gly Thr Arg Glu Ser Leu Ala Gln Gly Pro Asp Ala
 20 25 30

Ala Thr Thr Asp Glu Leu Ser Ser Leu Gly Ser Asp Ser Glu Ala Asn
 35 40 45

Gly Phe Ala Glu Arg Arg Ile Asp Lys Phe Gly Phe Ile Val Gly Ser
 50 55 60

Gln Gly Ala Glu Gly Ala Leu Glu Glu Val Pro Leu Glu Val Leu Arg
 65 70 75 80

Gln Arg Glu Ser Lys Trp Leu Asp Met Leu Asn Asn Trp Asp Lys Trp
 85 90 95

Met Ala Lys Lys His Lys Lys Ile Arg Leu Arg Cys Gln Lys Gly Ile
 100 105 110

Pro Pro Ser Leu Arg Gly Arg Ala Trp Gln Tyr Leu Ser Gly Gly Lys
 115 120 125

Val Lys Leu Gln Gln Asn Pro Gly Lys Phe Asp Glu Leu Asp Met Ser

130 135 140
 Pro Gly Asp Pro Lys Trp Leu Asp Val Ile Glu Arg Asp Leu His Arg
 145 150 155 160
 Gln Phe Pro Phe His Glu Met Phe Val Ser Arg Gly Gly His Gly Gln
 165 170 175
 Gln Asp Leu Phe Arg Val Leu Lys Ala Tyr Thr Leu Tyr Arg Pro Glu
 180 185 190
 Glu Gly Tyr Cys Gln Ala Gln Ala Pro Ile Ala Ala Val Leu Leu Met
 195 200 205
 His Met Pro Ala Glu Gln Ala Phe Trp Cys Leu Val Gln Ile Cys Glu
 210 215 220
 Lys Tyr Leu Pro Gly Tyr Tyr Ser Glu Lys Leu Glu Ala Ile Gln Leu
 225 230 235 240
 Asp Gly Glu Ile Leu Phe Ser Leu Leu Gln Lys Val Ser Pro Val Ala
 245 250 255
 His Lys His Leu Ser Arg Gln Lys Ile Asp Pro Leu Leu Tyr Met Thr
 260 265 270
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 275 280 285
 Leu Arg Val Trp Asp Met Phe Phe Cys Glu Gly Val Lys Ile Ile Phe
 290 295 300
 Arg Val Gly Leu Val Leu Leu Lys His Ala Leu Gly Ser Pro Glu Lys
 305 310 315 320
 Val Lys Ala Cys Gln Gly Gln Tyr Glu Thr Ile Glu Arg Leu Arg Ser
 325 330 335
 Leu Ser Pro Lys Ile Met Gln Glu Ala Phe Leu Val Gln Glu Val Val
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 Glu Leu Pro Val Thr Glu Arg Gln Ile Glu Arg Glu His Leu Ile Gln
 355 360 365
 Leu Arg Arg Trp Gln Glu Thr Arg Gly Glu Leu Gln Cys Arg Ser Pro
 370 375 380
 Pro Arg Leu His Gly Ala Lys Ala Ile Leu Asp Ala Glu Pro Gly Pro

385	390	395	400
Arg Pro Ala Leu Gln Pro Ser Pro Ser Ile Arg Leu Pro Leu Asp Ala			
405	410	415	
Pro Leu Pro Gly Ser Lys Ala Lys Pro Lys Pro Pro Lys Gln Ala Gln			
420	425	430	
Lys Glu Gln Arg Lys Gln Met Lys Gly Arg Gly Gln Leu Glu Lys Pro			
435	440	445	
Pro Ala Pro Asn Gln Ala Met Val Val Ala Ala Ala Gly Asp Ala Cys			
450	455	460	
Pro Pro Gln His Val Pro Pro Lys Asp Ser Ala Pro Lys Asp Ser Ala			
465	470	475	480
Pro Gln Asp Leu Ala Pro Gln Val Ser Ala His His Arg Ser Gln Glu			
485	490	495	
Ser Leu Thr Ser Gln Glu Ser Glu Asp Thr Tyr Leu			
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<210> 47

<211> 8270

<212> DNA

<213> Homo sapiens

<400> 47

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<212> PRT

<213> Homo sapiens

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Val Glu Leu Ser Cys Ala Cys Pro Glu Gly Ser Arg Phe Asp Leu Asn
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Asp Val Tyr Val Tyr Trp Gln Thr Ser Glu Ser Lys Thr Val Val Thr
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Tyr His Ile Pro Gln Asn Ser Ser Leu Glu Asn Val Asp Ser Arg Tyr
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Arg Asn Arg Ala Leu Met Ser Pro Ala Gly Met Leu Arg Gly Asp Phe

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 Glu Val Thr Leu His Val Ala Ala Asn Phe Ser Val Pro Val Val Ser
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 Ala Pro His Ser Pro Ser Gln Asp Glu Leu Thr Phe Thr Cys Thr Ser
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 Ile Asn Gly Tyr Pro Arg Pro Asn Val Tyr Trp Ile Asn Lys Thr Asp
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 Asn Ser Leu Leu Asp Gln Ala Leu Gln Asn Asp Thr Val Phe Leu Asn
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 Met Arg Gly Leu Tyr Asp Val Val Ser Val Leu Arg Ile Ala Arg Thr
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 Pro Ser Val Asn Ile Gly Cys Cys Ile Glu Asn Val Leu Leu Gln Gln
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 Asn Leu Thr Val Gly Ser Gln Thr Gly Asn Asp Ile Gly Glu Arg Asp
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Pro Glu Trp Val Gln Ala Pro Ala Pro Ser Pro Arg Gly Val Ser Arg		
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Ala Gly Pro Gly Thr Gly Ala Gln Pro Leu Trp Gly Val Arg Ser Gly		
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<212> PRT
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Tyr Ala Gln Arg Asp Gly Ala Ala Pro Thr Ala Ser Ala Pro Arg Gly
50 55 60
Arg Gly Arg Ala Ala Pro Arg Pro Thr Pro Gly Pro Arg Ala Phe Gln
65 70 75 80
Leu Pro Asp Ala Gly Ala Ala Pro Pro Ala Tyr Glu Gly Asp Thr Pro
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Ala Pro Pro Thr Pro Thr Gly Pro Phe Asp Phe Ala Arg Tyr Leu Arg
100 105 110
Ala Lys Asp Gln Arg Arg Phe Pro Leu Leu Ile Asn Gln Pro His Lys
115 120 125
Cys Arg Gly Asp Gly Ala Pro Gly Gly Arg Pro Asp Leu Leu Ile Ala
130 135 140
Val Lys Ser Val Ala Glu Asp Phe Glu Arg Arg Gln Ala Val Arg Gln
145 150 155 160
Thr Trp Gly Ala Glu Gly Arg Val Gln Gly Ala Leu Val Arg Arg Val
165 170 175

Phe Leu Leu Gly Val Pro Arg Gly Ala Gly Ser Gly Gly Ala Asp Glu
 180 190
 Val Gly Glu Gly Ala Arg Thr His Trp Arg Ala Leu Leu Arg Ala Glu
 195 200 205
 Ser Leu Ala Tyr Ala Asp Ile Leu Leu Trp Ala Phe Asp Asp Thr Phe
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 Gln Asp Leu Leu Ala Gly Asp Val Ile Val His Ala Arg Pro Ile Arg
 275 280 285
 Thr Arg Ala Ser Lys Tyr Tyr Ile Pro Glu Ala Val Tyr Gly Leu Pro
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 Ala Tyr Pro Ala Tyr Ala Gly Gly Gly Gly Phe Val Leu Ser Gly Ala
 305 310 315 320
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<400> 53
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<212> PRT

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Glu Glu Ser Pro Leu Ser Pro Pro Pro Glu Ala Ser Arg Leu Ser Pro
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Pro Pro Glu Asp Ser Pro Met Ser Pro Pro Pro Glu Glu Ser Pro Met

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Lys Gln Thr Ala Gly Arg Gly Ser Pro Cys Glu Glu Gln Glu Glu Pro 595 600 605		
Arg Ala Pro Val Ala Pro Thr Pro Pro Thr Leu Ile Lys Ser Asp Ile 610 615 620		
Val Asn Glu Ile Ser Asn Leu Ser Gln Gly Asp Ala Ser Ala Ser Phe 625 630 635 640		
Pro Gly Ser Glu Pro Leu Leu Gly Ser Pro Asp Pro Glu Gly Gly Gly 645 650 655		
Ser Leu Ser Met Glu Leu Gly Val Ser Thr Asp Val Ser Pro Ala Arg 660 665 670		
Asp Glu Gly Ser Leu Arg Leu Cys Thr Asp Ser Leu Pro Glu Thr Asp 675 680 685		
Asp Ser Leu Leu Cys Asp Ala Gly Thr Ala Ile Ser Gly Gly Lys Ala 690 695 700		
Glu Gly Glu Lys Gly Arg Arg Arg Ser Ser Pro Ala Arg Ser Arg Ile 705 710 715 720		
Lys Gln Gly Arg Ser Ser Ser Phe Pro Gly Arg Arg Arg Pro Arg Gly 725 730 735		
Gly Ala His Gly Gly Arg Gly Arg Gly Arg Ala Arg Leu Lys Ser Thr 740 745 750		
Ala Ser Ser Ile Glu Thr Leu Val Val Ala Asp Ile Asp Ser Ser Pro 755 760 765		
Ser Lys Glu Glu Glu Glu Glu Asp Asp Asp Thr Met Gln Asn Thr Val 770 775 780		
Val Leu Phe Ser Asn Thr Asp Lys Phe Val Leu Met Gln Asp Met Cys 785 790 795 800		
Val Val Cys Gly Ser Phe Gly Arg Gly Ala Glu Gly His Leu Leu Ala 805 810 815		
Cys Ser Gln Cys Ser Gln Cys Tyr His Pro Tyr Cys Val Asn Ser Lys		

820	825	830
Ile Thr Lys Val Met Leu Leu Lys Gly Trp Arg Cys Val Glu Cys Ile		
835	840	845
Val Cys Glu Val Cys Gly Gln Ala Ser Asp Pro Ser Arg Leu Leu Leu		
850	855	860
Cys Asp Asp Cys Asp Ile Ser Tyr His Thr Tyr Cys Leu Asp Pro Pro		
865	870	875
Leu Leu Thr Val Pro Lys Gly Gly Trp Lys Cys Lys Trp Cys Val Ser		
885	890	895
Cys Met Gln Cys Gly Ala Ala Ser Pro Gly Phe His Cys Glu Trp Gln		
900	905	910
Asn Ser Tyr Thr His Cys Gly Pro Cys Ala Ser Leu Val Thr Cys Pro		
915	920	925
Ile Cys His Ala Pro Tyr Val Glu Glu Asp Leu Leu Ile Gln Cys Arg		
930	935	940
His Cys Glu Arg Trp Met His Ala Gly Cys Glu Ser Leu Phe Thr Glu		
945	950	955
Asp Asp Val Asp His Ala Pro Asp Glu Gly Phe Asp Cys Val Ser Cys		
965	970	975
Gln Pro Tyr Val Val Lys Pro Val Ala Pro Val Ala Pro Pro Glu Leu		
980	985	990
Val Pro Met Lys Val Lys Glu Pro Glu Pro Gln Tyr Phe Arg Phe Glu		
995	1000	1005
Gly Val Trp Leu Thr Glu Thr Gly Met Ala Leu Leu Arg Asn Leu Thr		
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Met Ser Pro Leu His Lys Arg Arg Gln Arg Arg Gly Arg Leu Gly Leu		
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Pro Gly Glu Ala Gly Leu Glu Gly Ser Glu Pro Ser Asp Ala Leu Gly		
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Pro Asp Asp Lys Lys Asp Gly Asp Leu Asp Thr Asp Glu Leu Leu Lys		
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Gly Glu Gly Gly Val Glu His Met Glu Cys Glu Ile Lys Leu Glu Gly		

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 Val Arg Gln Arg Lys Ser His Thr Arg Thr Lys Lys Gly Pro Ala Ala
 1125 1130 1135
 Gln Ala Glu Val Leu Ser Gly Asp Gly Gln Pro Asp Glu Val Ile Pro
 1140 1145 1150
 Ala Asp Leu Pro Ala Glu Gly Ala Val Glu Gln Ser Leu Ala Glu Gly
 1155 1160 1165
 Asp Glu Lys Lys Lys Gln Gln Arg Arg Gly Arg Lys Arg Ser Lys Leu
 1170 1175 1180
 Glu Gly Met Phe Pro Ala Tyr Leu Gln Glu Ala Phe Phe Gly Lys Glu
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 Leu Leu Asp Leu Ser Arg Lys Ala Leu Phe Ala Val Gly Val Gly Arg
 1205 1210 1215
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 Arg Ile Ser Thr Glu Glu Leu Pro Lys Met Glu Ser Lys Asp Leu Gln
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 Gln Leu Phe Lys Asp Val Leu Gly Ser Glu Arg Glu Gln His Leu Gly
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 Cys Gly Thr Pro Gly Leu Glu Gly Ser Arg Thr Pro Leu Gln Arg Pro

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Phe Leu Gln Gly Gly Leu Pro Leu Gly Asn Leu Pro Ser Ser Ser Pro		
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Met Asp Ser Tyr Pro Gly Leu Cys Gln Ser Pro Phe Leu Asp Ser Arg		
1365	1370	1375
Glu Arg Gly Gly Phe Phe Ser Pro Glu Pro Gly Glu Pro Asp Ser Pro		
1380	1385	1390
Trp Thr Gly Ser Gly Gly Thr Thr Pro Ser Thr Pro Thr Thr Pro Thr		
1395	1400	1405
Thr Glu Gly Glu Gly Asp Gly Leu Ser Tyr Asn Gln Arg Ser Leu Gln		
1410	1415	1420
Arg Trp Glu Lys Asp Glu Glu Leu Gly Gln Leu Ser Thr Ile Ser Pro		
1425	1430	1435 1440
Val Leu Tyr Ala Asn Ile Asn Phe Pro Asn Leu Lys Gln Asp Tyr Pro		
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Asp Trp Ser Ser Arg Cys Lys Gln Ile Met Lys Leu Trp Arg Lys Val		
1460	1465	1470
Pro Ala Ala Asp Lys Ala Pro Tyr Leu Gln Lys Ala Lys Asp Asn Arg		
1475	1480	1485
Ala Ala His Arg Ile Asn Lys Val Gln Lys Gln Ala Glu Ser Gln Ile		
1490	1495	1500
Asn Lys Gln Thr Lys Val Gly Asp Ile Ala Arg Lys Thr Asp Arg Pro		
1505	1510	1515 1520
Ala Leu His Leu Arg Ile Pro Pro Gln Pro Gly Ala Leu Gly Ser Pro		
1525	1530	1535
Pro Pro Ala Ala Ala Pro Thr Ile Phe Ile Gly Ser Pro Thr Thr Pro		
1540	1545	1550
Ala Gly Leu Ser Thr Ser Ala Asp Gly Phe Leu Lys Pro Pro Ala Gly		
1555	1560	1565
Ser Val Pro Gly Pro Asp Ser Pro Gly Glu Leu Phe Leu Lys Leu Pro		
1570	1575	1580
Pro Gln Val Pro Ala Gln Ala Pro Ser Gln Asp Pro Phe Gly Leu Ala		

2355 2360 2365
 Thr Pro His Thr Lys Gly Pro Thr Leu Pro Thr Gly Leu Glu Leu Val
 2370 2375 2380
 Asn Arg Pro Pro Ser Ser Thr Glu Leu Gly Arg Pro Asn Pro Leu Ala
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 Gly Leu Gly Val Asp Val Ala Lys Gly Asp Asp Glu Leu Gly Thr Leu
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 Glu Asn Leu Glu Thr Asn Asp Pro His Leu Asp Asp Leu Leu Asn Gly
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 2465 2470 2475 2480
 Asp Lys Lys Asp Ile Phe Asn Glu His Leu Arg Leu Val Glu Ser Ala
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 Asn Glu Glu Ala Glu Arg Glu Ala Leu Leu Arg Gly Val Glu Pro Gly
 2500 2505 2510
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 Pro Arg Leu Ala Ser Val Leu Pro Glu Val Lys Pro Lys Val Glu Glu
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 Val Glu Pro Ala Pro Ala Ala Asn Ser Leu Gly Leu Gly Leu Lys Pro
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 Gly Gln Ser Met Met Gly Ser Arg Asp Thr Arg Met Gly Thr Gly Pro
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 2595 2600 2605
 Gly Gly Pro Pro Ala His Leu Leu Thr Pro Ser Pro Leu Ser Gly Pro

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 Thr Leu Pro Gly Gly Pro Ala Ala Ser Gly Asp Glu Leu Asp Lys Met
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 Glu Ser Ser Leu Val Ala Ser Glu Leu Pro Leu Leu Ile Glu Asp Leu
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 Leu Glu His Glu Lys Lys Glu Leu Gln Lys Lys Gln Gln Leu Ser Ala
 2675 2680 2685
 Gln Leu Gln Pro Ala Gln Gln Gln Gln Gln Gln Gln Gln His Ser
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 Pro Gly Asn Leu Ala Leu Arg Ser Leu Gly Pro Asp Ser Arg Leu Leu

3125 3130 3135

Gln Glu Arg Gln Leu Gln Leu Gln Gln Gln Arg Met Gln Leu Ala Gln
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Lys Leu Gln Gln Gln Gln Gln Gln Gln Gln Gln His Leu Leu
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Thr Asn Gln Ala Leu Gly Pro Lys Pro Gln Gly Leu Met Pro Pro Ser
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Gln Gln Ser Leu Met Ser His Ser Gly Gln Pro Lys Leu Ser Ala Gln
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Gln Gln Gln Gln Gln Gln Gln Gln Phe Gln Gln Gln Gln Gln Gln

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 Ser Gly Gln Gly Leu Pro Gly Val Gly Ile Met Pro Thr Val Gly Gln
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 Leu Arg Ala Gln Leu Gln Gly Val Leu Ala Lys Asn Pro Gln Leu Arg
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Glu Pro Gly Thr Gln Thr Ser Pro Leu Gln Gly Leu Leu Gly Cys Gln
3665 3670 3675 3680

Pro Gln Leu Gly Gly Phe Pro Gly Pro Gln Thr Gly Pro Leu Gln Glu
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Leu Gly Ala Gly Pro Arg Pro Gln Gly Pro Pro Arg Leu Pro Ala Pro
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Pro Gly Ala Leu Ser Thr Gly Pro Val Leu Gly Pro Val His Pro Thr
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Ser Pro Ser Ser Gln Leu Pro Thr Glu Ala Gln Leu Pro Pro Thr His
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Pro Gly Thr Pro Lys Pro Gln Gly Pro Thr Leu Glu Pro Pro Pro Gly
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Arg Val Ser Pro Ala Ala Ala Gln Leu Ala Asp Thr Leu Phe Ser Lys
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Gly Pro Arg Ser Glu Ala Gly His Leu Leu Leu Gln Lys Leu Leu Arg
3875 3880 3885

Ala Lys Asn Val Gln Leu Ser Thr Gly Gln Gly Ser Glu Gly Leu Arg

3890 3895 3900

Ala Glu Ile Asn Gly His Ile Asp Ser Lys Leu Ala Gly Leu Glu Gln 3920
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Lys Leu Gln Gly Thr Pro Ser Asn Lys Glu Asp Ala Ala Ala Arg Lys 3935
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Pro Leu Thr Pro Lys Pro Lys Arg Val Gln Lys Ala Ser Asp Arg Leu 3950
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Val Ser Ser Arg Lys Lys Leu Arg Lys Glu Asp Gly Val Arg Ala Ser 3965
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Thr Glu Pro Ala Ile Thr Ala Asn Phe Ser Leu Phe Ala Pro Phe Gly 4000
3985 3990 3995

Ser Gly Cys Pro Val Asn Gly Gln Ser Gln Leu Arg Gly Ala Phe Gly 4015
4005 4010

Ser Gly Ala Leu Pro Thr Gly Pro Asp Tyr Tyr Ser Gln Leu Leu Thr 4030
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Lys Asn Asn Leu Ser Asn Pro Pro Thr Pro Pro Ser Ser Leu Pro Pro 4045
4035 4040

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Met Glu Ser Asp Glu Asp Ser Asp Ser Pro Asp Ser Ile Val Pro Ala 4125
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Ser Ser Pro Glu Ser Ile Leu Gly Glu Glu Ala Pro Arg Phe Pro His 4140
4130 4135

Leu Gly Ser Gly Arg Trp Glu Gln Glu Asp Arg Ala Leu Ser Pro Val

Ser Leu Arg Glu Leu His Leu Asp His Asn Gln Ile Ser Arg Val Pro
 180 185 190

Asn Asn Ala Leu Glu Gly Leu Glu Asn Leu Thr Ala Leu Tyr Leu Gln
 195 200 205

His Asn Glu Ile Gln Glu Val Gly Ser Ser Met Arg Gly Leu Arg Ser
 210 215 220

Leu Ile Leu Leu Asp Leu Ser Tyr Asn His Leu Arg Lys Val Pro Asp
 225 230 235 240

Gly Leu Pro Ser Ala Leu Glu Gln Leu Tyr Met Glu His Asn Asn Val
 245 250 255

Tyr Thr Val Pro Asp Ser Tyr Phe Arg Gly Ala Pro Lys Leu Leu Tyr
 260 265 270

Val Arg Leu Ser His Asn Ser Leu Thr Asn Asn Gly Leu Ala Ser Asn
 275 280 285

Thr Phe Asn Ser Ser Ser Leu Leu Glu Leu Asp Leu Ser Tyr Asn Gln
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Leu Gln Lys Ile Pro Pro Val Asn Thr Asn Leu Glu Asn Leu Tyr Leu
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Gln Gly Asn Arg Ile Asn Glu Phe Ser Ile Ser Ser Phe Cys Thr Val
 325 330 335

Val Asp Val Val Asn Phe Ser Lys Leu Gln Val Leu Arg Leu Asp Gly
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Arg Leu Ala Ser Leu Ile Glu Ile
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<210> 58

<211> 376

<212> PRT

<213> Homo sapiens

<400> 58

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 35 40 45
 Thr Tyr Glu Pro Tyr Pro Tyr Gly Val Asp Glu Gly Pro Ala Tyr Thr
 50 55 60
 Tyr Gly Ser Pro Ser Pro Pro Asp Pro Arg Asp Cys Pro Gln Glu Cys
 65 70 75 80
 Asp Cys Pro Pro Asn Phe Leu Thr Ala Met Tyr Cys Asp Asn Arg Asn
 85 90 95
 Leu Lys Tyr Leu Pro Phe Val Pro Ser Arg Met Lys Tyr Val Tyr Phe
 100 105 110
 Gln Asn Asn Gln Ile Thr Ser Ile Gln Glu Gly Val Phe Asp Asn Ala
 115 120 125
 Thr Gly Leu Leu Trp Ile Ala Leu His Gly Asn Gln Ile Thr Ser Asp
 130 135 140
 Lys Val Gly Arg Lys Val Phe Ser Lys Leu Arg His Leu Glu Arg Leu
 145 150 155 160
 Tyr Leu Asp His Asn Asn Leu Thr Arg Met Pro Gly Pro Leu Pro Arg
 165 170 175
 Ser Leu Arg Glu Leu His Leu Asp His Asn Gln Ile Ser Arg Val Pro
 180 185 190
 Asn Asn Ala Leu Glu Gly Leu Glu Asn Leu Thr Ala Leu Tyr Leu Gln
 195 200 205
 His Asp Glu Ile Gln Glu Val Gly Ser Ser Met Arg Gly Leu Arg Ser
 210 215 220
 Leu Ile Leu Leu Asp Leu Ser Tyr Asn His Leu Arg Lys Val Pro Asp
 225 230 235 240
 Gly Leu Pro Ser Ala Leu Glu Gln Leu Tyr Met Glu His Asn Asn Val
 245 250 255
 Tyr Thr Val Pro Asp Ser Tyr Phe Arg Gly Ala Pro Lys Leu Leu Tyr
 260 265 270

Val Arg Leu Ser His Asn Ser Leu Thr Asn Asn Gly Leu Ala Ser Asn
 275 280 285

Thr Phe Asn Ser Ser Ser Leu Leu Glu Leu Asp Leu Ser Tyr Asn Gln
 290 295 300

Leu Gln Lys Ile Pro Pro Val Asn Thr Asn Leu Glu Asn Leu Tyr Leu
 305 310 315 320

Gln Gly Asn Arg Ile Asn Glu Phe Ser Ile Ser Ser Phe Cys Thr Val
 325 330 335

Val Asp Val Val Asn Phe Ser Lys Leu Gln Val Val Arg Leu Asp Gly
 340 345 350

Asn Glu Ile Lys Arg Ser Ala Met Pro Ala Asp Ala Pro Leu Cys Leu
 355 360 365

Arg Leu Ala Ser Leu Ile Glu Ile
 370 375

<210> 59

<211> 376

<212> PRT

<213> Homo sapiens

<400> 59

Met Gln Trp Thr Ser Leu Leu Leu Leu Ala Gly Leu Phe Ser Leu Ser
 1 5 10 15

Gln Ala Gln Tyr Glu Asp Asp Pro His Trp Trp Phe His Tyr Leu Arg
 20 25 30

Ser Gln Gln Ser Thr Tyr Tyr Asp Pro Tyr Asp Pro Tyr Pro Tyr Glu
 35 40 45

Thr Tyr Glu Pro Tyr Pro Tyr Gly Val Asp Glu Gly Pro Ala Tyr Thr
 50 55 60

Tyr Gly Ser Pro Ser Pro Pro Asp Pro Arg Asp Cys Pro Gln Glu Cys
 65 70 75 80

Asp Cys Pro Pro Asn Phe Pro Thr Ala Met Tyr Cys Asp Asn Arg Asn
 85 90 95

Leu Lys Tyr Leu Pro Phe Val Pro Ser Arg Met Lys Tyr Val Tyr Phe

100	105	110
Gln Asn Asn Gln Ile Thr Ser Ile Gln Glu Gly Val Phe Asp Asn Ala		
115	120	125
Thr Gly Leu Leu Trp Ile Ala Leu His Gly Asn Gln Ile Thr Ser Asp		
130	135	140
Lys Val Gly Arg Lys Val Phe Ser Lys Leu Arg His Leu Glu Arg Leu		
145	150	155
Tyr Leu Asp His Asn Asn Leu Thr Arg Met Pro Gly Pro Leu Pro Arg		
165	170	175
Ser Leu Arg Glu Leu His Leu Asp His Asn Gln Ile Ser Arg Val Pro		
180	185	190
Asn Asn Ala Leu Glu Gly Leu Glu Asn Leu Thr Ala Leu Tyr Leu Gln		
195	200	205
His Asn Glu Ile Gln Glu Val Gly Ser Ser Met Arg Gly Leu Arg Ser		
210	215	220
Leu Tyr Leu Leu Asp Leu Ser Tyr Asn His Leu Arg Lys Val Pro Asp		
225	230	235
Gly Leu Pro Ser Ala Leu Glu Gln Leu Tyr Met Glu His Asn Asn Val		
245	250	255
Tyr Thr Val Pro Asp Ser Tyr Phe Arg Gly Ala Pro Lys Leu Leu Tyr		
260	265	270
Val Arg Leu Ser His Asn Ser Leu Thr Asn Asn Gly Leu Ala Ser Asn		
275	280	285
Thr Phe Asn Ser Ser Ser Leu Leu Glu Leu Asp Leu Ser Tyr Asn Gln		
290	295	300
Leu Gln Lys Ile Pro Pro Val Asn Thr Asn Leu Glu Asn Leu Tyr Leu		
305	310	315
Gln Gly Asn Arg Ile Asn Glu Phe Ser Ile Ser Ser Phe Cys Thr Val		
325	330	335
Val Asp Val Val Asn Phe Ser Gln Leu Gln Val Val Arg Leu Asp Gly		
340	345	350
Asn Glu Met Lys Arg Ser Ala Met Pro Ala Glu Ala Pro Leu Cys Leu		

Asn Asn Ala Leu Glu Gly Leu Glu Asn Leu Thr Ala Leu Tyr Leu His
 195 200 205

His Asn Glu Ile Gln Glu Val Gly Ser Ser Met Arg Gly Leu Arg Ser
 210 215 220

Leu Ile Leu Leu Asp Leu Ser Tyr Asn His Leu Arg Arg Val Pro Asp
 225 230 235 240

Gly Leu Pro Ser Ala Leu Glu Gln Leu Tyr Leu Glu His Asn Asn Val
 245 250 255

Tyr Thr Val Pro Asp Ser Tyr Phe Arg Gly Ser Pro Lys Leu Leu Tyr
 260 265 270

Val Arg Leu Ser His Asn Ser Leu Thr Asn Asn Gly Leu Ala Thr Asn
 275 280 285

Thr Phe Asn Ser Ser Ser Leu Leu Glu Leu Asp Leu Ser Tyr Asn Gln
 290 295 300

Leu Gln Lys Ile Pro Pro Val Asn Thr Asn Leu Glu Asn Leu Tyr Leu
 305 310 315 320

Gln Gly Asn Arg Ile Asn Glu Phe Ser Ile Ser Ser Phe Cys Thr Val
 325 330 335

Val Asp Val Met Asn Phe Ser Lys Leu Gln Val Leu Arg Leu Asp Gly
 340 345 350

Asn Glu Ile Lys Arg Ser Ala Met Pro Val Asp Ala Pro Leu Cys Leu
 355 360 365

Arg Leu Ala Ser Leu Ile Glu Ile
 370 375

<210> 61

<211> 376

<212> PRT

<213> Mus musculus

<400> 61

Met Gln Trp Ala Ser Val Leu Leu Leu Ala Gly Leu Cys Ser Leu Ser
 1 5 10 15

Gln Gly Gln Tyr Asp Glu Asp Ser His Trp Trp Ile Gln Tyr Leu Arg
 20 25 30

Asn Gln Gln Ser Thr Tyr Tyr Asp Pro Tyr Asp Pro Tyr Pro Tyr Glu
 35 40 45
 Pro Ser Glu Pro Tyr Pro Tyr Gly Val Glu Glu Gly Pro Ala Tyr Ala
 50 55 60
 Tyr Gly Ala Pro Pro Pro Pro Glu Pro Arg Asp Cys Pro Gln Glu Cys
 65 70 75 80
 Asp Cys Pro Pro Asn Phe Pro Thr Ala Met Tyr Cys Asp Asn Arg Asn
 85 90 95
 Leu Lys Tyr Leu Pro Phe Val Pro Ser Arg Met Lys Tyr Val Tyr Phe
 100 105 110
 Gln Asn Asn Gln Ile Ser Ala Ile Gln Glu Gly Val Phe Asp Asn Ala
 115 120 125
 Thr Gly Leu Leu Trp Val Ala Leu His Gly Asn Gln Ile Thr Ser Asp
 130 135 140
 Lys Val Gly Arg Lys Val Phe Ser Lys Leu Arg His Leu Glu Arg Leu
 145 150 155 160
 Tyr Leu Asp His Asn Asn Leu Thr Arg Met Pro Gly Pro Leu Pro Arg
 165 170 175
 Ser Leu Arg Glu Leu His Leu Asp His Asn Gln Ile Ser Arg Val Pro
 180 185 190
 Asn Asn Ala Leu Glu Gly Leu Glu Asn Leu Thr Ala Leu Tyr Leu His
 195 200 205
 His Asn Glu Ile Gln Glu Val Gly Ser Ser Met Arg Gly Leu Arg Ser
 210 215 220
 Leu Ile Leu Leu Asp Leu Ser Tyr Asn His Leu Arg Arg Val Pro Asp
 225 230 235 240
 Gly Leu Pro Ser Ala Leu Glu Gln Leu Tyr Leu Glu His Asn Asn Val
 245 250 255
 Tyr Thr Val Pro Asp Ser Tyr Phe Arg Gly Ser Pro Lys Leu Leu Tyr
 260 265 270
 Val Arg Leu Ser His Asn Ser Leu Thr Asn Asn Gly Leu Ala Thr Asn
 275 280 285

Thr Phe Asn Ser Ser Ser Leu Leu Glu Leu Asp Leu Ser Tyr Asn Gln
290 295 300

Leu Gln Lys Ile Pro Pro Val Asn Thr Asn Leu Glu Asn Leu Tyr Leu
305 310 315 320

Gln Gly Asn Arg Ile Asn Glu Phe Ser Ile Ser Ser Phe Cys Thr Val
325 330 335

Val Asp Val Met Asn Phe Ser Lys Leu Gln Val Leu Arg Leu Asp Gly
340 345 350

Asn Glu Ile Lys Arg Ser Ala Met Pro Val Asp Ala Pro Leu Cys Leu
355 360 365

Arg Leu Ala Asn Leu Ile Glu Ile
370 375

<210> 62

<211> 34

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: LRRNT, Leucine
rich repeat N-terminal domain sequence

<400> 62

Ala Cys Pro Ala Pro Cys Asn Cys Ser Pro Gly Thr Ala Val Asp Cys
1 5 10 15

Ser Gly Arg Gly Leu Thr Glu Val Pro Leu Asp Leu Pro Ala Asp Thr
20 25 30

Thr Leu

<210> 63

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: LRRNT, Leucine
rich repeat N-terminal domain sequence

<400> 63
 Ala Cys Pro Arg Pro Cys His Cys Ser Gly Thr Val Val Asp Cys Ser
 1 5 10 15

Gly Arg Gly Leu Thr Glu Val Pro Arg Asp Leu Pro
 20 25

<210> 64
 <211> 440
 <212> PRT
 <213> Homo sapiens

<400> 64
 Met Arg Pro His Leu Ser Pro Pro Leu Gln Gln Leu Leu Leu Pro Val
 1 5 10 15

Leu Leu Ala Cys Ala Ala His Ser Thr Gly Ala Leu Pro Arg Leu Cys
 20 25 30

Asp Val Leu Gln Val Leu Trp Glu Glu Gln Asp Gln Cys Leu Gln Glu
 35 40 45

Leu Ser Arg Glu Gln Thr Gly Asp Leu Gly Thr Glu Gln Pro Val Pro
 50 55 60

Gly Cys Glu Gly Met Trp Asp Asn Ile Ser Cys Trp Pro Ser Ser Val
 65 70 75 80

Pro Gly Arg Met Val Glu Val Glu Cys Pro Arg Phe Leu Arg Met Leu
 85 90 95

Thr Ser Arg Asn Gly Ser Leu Phe Arg Asn Cys Thr Gln Asp Gly Trp
 100 105 110

Ser Glu Thr Phe Pro Arg Pro Asn Leu Ala Cys Gly Val Asn Val Asn
 115 120 125

Asp Ser Ser Asn Glu Lys Arg His Ser Tyr Leu Leu Lys Leu Lys Val
 130 135 140

Met Tyr Thr Val Gly Tyr Ser Ser Ser Leu Val Met Leu Leu Val Ala
 145 150 155 160

Leu Gly Ile Leu Cys Ala Phe Arg Arg Leu His Cys Thr Arg Asn Tyr
 165 170 175

Ile His Met His Leu Phe Val Ser Phe Ile Leu Arg Ala Leu Ser Asn
 180 185 190
 Phe Ile Lys Asp Ala Val Leu Phe Ser Ser Asp Asp Val Thr Tyr Cys
 195 200 205
 Asp Ala His Arg Ala Gly Cys Lys Leu Val Met Val Leu Phe Gln Tyr
 210 215 220
 Cys Ile Met Ala Asn Tyr Ser Trp Leu Leu Val Glu Gly Leu Tyr Leu
 225 230 235 240
 His Thr Leu Leu Ala Ile Ser Phe Phe Ser Glu Arg Lys Tyr Leu Gln
 245 250 255
 Gly Phe Val Ala Phe Gly Trp Gly Ser Pro Ala Ile Phe Val Ala Leu
 260 265 270
 Trp Ala Ile Ala Arg His Phe Leu Glu Asp Val Gly Cys Trp Asp Ile
 275 280 285
 Asn Ala Asn Ala Ser Ile Trp Trp Ile Ile Arg Gly Pro Val Ile Leu
 290 295 300
 Ser Ile Leu Ile Asn Phe Ile Leu Phe Ile Asn Ile Leu Arg Ile Leu
 305 310 315 320
 Met Arg Lys Leu Arg Thr Gln Glu Thr Arg Gly Asn Glu Val Ser His
 325 330 335
 Tyr Lys Arg Leu Ala Arg Ser Thr Leu Leu Leu Ile Pro Leu Phe Gly
 340 345 350
 Ile His Tyr Ile Val Phe Ala Phe Ser Pro Glu Asp Ala Met Glu Ile
 355 360 365
 Gln Leu Phe Phe Glu Leu Ala Leu Gly Ser Phe Gln Gly Leu Val Val
 370 375 380
 Ala Val Leu Tyr Cys Phe Leu Asn Gly Glu Val Gln Leu Glu Val Gln
 385 390 395 400
 Lys Lys Trp Gln Gln Trp His Leu Arg Glu Phe Pro Leu His Pro Val
 405 410 415
 Ala Ser Phe Ser Asn Ser Thr Lys Ala Ser His Leu Glu Gln Ser Gln
 420 425 430

Gly Thr Cys Arg Thr Ser Ile Ile
435 440

<210> 65
<211> 440
<212> PRT
<213> Homo sapiens

<400> 65
Met Arg Pro His Leu Ser Pro Pro Leu Gln Gln Leu Leu Leu Pro Val
1 5 10 15

Leu Leu Ala Cys Ala Ala His Ser Thr Gly Ala Leu Pro Arg Leu Cys
20 25 30

Asp Val Leu Gln Val Leu Trp Glu Glu Gln Asp Gln Cys Leu Gln Glu
35 40 45

Leu Ser Arg Glu Gln Thr Gly Asp Leu Gly Thr Glu Gln Pro Val Pro
50 55 60

Gly Cys Glu Gly Met Trp Asp Asn Ile Ser Cys Trp Pro Ser Ser Val
65 70 75 80

Pro Gly Arg Met Val Glu Val Glu Cys Pro Arg Phe Leu Arg Met Leu
85 90 95

Thr Ser Arg Asn Gly Ser Leu Phe Arg Asn Cys Thr Gln Asp Gly Trp
100 105 110

Ser Glu Thr Phe Pro Arg Pro Asn Leu Ala Cys Gly Val Asn Val Asn
115 120 125

Asp Ser Ser Asn Glu Lys Arg His Ser Tyr Leu Leu Lys Leu Lys Val
130 135 140

Met Tyr Thr Val Gly Tyr Ser Ser Ser Leu Val Met Leu Leu Val Ala
145 150 155 160

Leu Gly Ile Leu Cys Ala Phe Arg Arg Leu His Cys Thr Arg Asn Tyr
165 170 175

Ile His Met His Leu Phe Val Ser Phe Ile Leu Arg Ala Leu Ser Asn
180 185 190

Phe Ile Lys Asp Ala Val Leu Phe Ser Ser Asp Asp Val Thr Tyr Cys
195 200 205

Asp Ala His Arg Ala Gly Cys Lys Leu Val Met Val Leu Phe Gln Tyr
210 215 220

Cys Ile Met Ala Asn Tyr Ser Trp Leu Leu Val Glu Gly Leu Tyr Leu
225 230 235 240

His Thr Leu Leu Ala Ile Ser Phe Phe Ser Glu Arg Lys Tyr Leu Gln
245 250 255

Gly Phe Val Ala Phe Gly Trp Gly Ser Pro Ala Ile Phe Val Ala Leu
260 265 270

Trp Ala Ile Ala Arg His Phe Leu Glu Asp Val Gly Cys Trp Asp Ile
275 280 285

Asn Ala Asn Ala Ser Ile Trp Trp Ile Ile Arg Gly Pro Val Ile Leu
290 295 300

Ser Ile Leu Ile Asn Phe Ile Leu Phe Ile Asn Ile Leu Arg Ile Leu
305 310 315 320

Met Arg Lys Leu Arg Thr Gln Glu Thr Arg Gly Asn Glu Val Ser His
325 330 335

Tyr Lys Arg Leu Ala Arg Ser Thr Leu Leu Leu Ile Pro Leu Phe Gly
340 345 350

Ile His Tyr Ile Val Phe Ala Phe Ser Pro Glu Asp Ala Met Glu Ile
355 360 365

Gln Leu Phe Phe Glu Leu Ala Leu Gly Ser Phe Gln Gly Leu Val Val
370 375 380

Ala Val Leu Tyr Cys Phe Leu Asn Gly Glu Val Gln Leu Glu Val Gln
385 390 395 400

Lys Lys Trp Gln Gln Trp His Leu Arg Glu Phe Pro Leu His Pro Val
405 410 415

Ala Ser Phe Ser Asn Ser Thr Lys Ala Ser His Leu Glu Gln Ser Gln
420 425 430

Gly Thr Cys Arg Thr Ser Ile Ile
435 440

<210> 66

<211> 440
 <212> PRT
 <213> Homo sapiens

<400> 66
 Met Arg Pro His Leu Ser Pro Pro Leu Gln Gln Leu Leu Leu Pro Val
 1 5 10 15
 Leu Leu Ala Cys Ala Ala His Ser Thr Gly Ala Leu Pro Arg Leu Cys
 20 25 30
 Asp Val Leu Gln Val Leu Trp Glu Glu Gln Asp Gln Cys Leu Gln Glu
 35 40 45
 Leu Ser Arg Glu Gln Thr Gly Asp Leu Gly Thr Glu Gln Pro Val Pro
 50 55 60
 Gly Cys Glu Gly Met Trp Asp Asn Ile Ser Cys Trp Pro Ser Ser Val
 65 70 75 80
 Pro Gly Arg Met Val Glu Val Glu Cys Pro Arg Phe Leu Arg Met Leu
 85 90 95
 Thr Ser Arg Asn Gly Ser Leu Phe Arg Asn Cys Thr Gln Asp Gly Trp
 100 105 110
 Ser Glu Thr Phe Pro Arg Pro Asn Leu Ala Cys Gly Val Asn Val Asn
 115 120 125
 Asp Ser Ser Asn Glu Lys Arg His Ser Tyr Leu Leu Lys Leu Lys Val
 130 135 140
 Met Tyr Thr Val Gly Tyr Ser Ser Ser Leu Val Met Leu Leu Val Ala
 145 150 155 160
 Leu Gly Ile Leu Cys Ala Phe Arg Arg Leu His Cys Thr Arg Asn Tyr
 165 170 175
 Ile His Met His Leu Phe Val Ser Phe Ile Leu Arg Ala Leu Ser Asn
 180 185 190
 Phe Ile Lys Asp Ala Val Leu Phe Ser Ser Asp Asp Val Thr Tyr Cys
 195 200 205
 Asp Ala His Arg Ala Gly Cys Lys Leu Val Met Val Leu Phe Gln Tyr
 210 215 220
 Cys Ile Met Ala Asn Tyr Ser Trp Leu Leu Val Glu Gly Leu Tyr Leu

Met Arg Pro His Leu Ser Pro Pro Leu Gln Gln Leu Leu Leu Pro Val
 1 5 10 15
 Leu Leu Ala Cys Ala Ala His Ser Thr Gly Ala Leu Pro Arg Leu Cys
 20 25 30
 Asp Val Leu Gln Val Leu Trp Glu Glu Gln Asp Gln Cys Leu Gln Glu
 35 40 45
 Leu Ser Arg Glu Gln Thr Gly Asp Leu Gly Thr Glu Gln Pro Val Pro
 50 55 60
 Gly Cys Glu Gly Met Trp Asp Asn Ile Ser Cys Trp Pro Ser Ser Val
 65 70 75 80
 Pro Gly Arg Met Val Glu Val Glu Cys Pro Arg Phe Leu Arg Met Leu
 85 90 95
 Thr Ser Arg Asn Gly Ser Leu Phe Arg Asn Cys Thr Gln Asp Gly Trp
 100 105 110
 Ser Glu Thr Phe Pro Arg Pro Asn Leu Ala Cys Ala Val Asn Val Asn
 115 120 125
 Asp Ser Ser Asn Glu Lys Arg His Ser Tyr Leu Leu Lys Leu Lys Val
 130 135 140
 Met Tyr Thr Val Gly Tyr Ser Ser Ser Leu Val Met Leu Leu Val Ala
 145 150 155 160
 Leu Gly Ile Leu Cys Ala Phe Arg Arg Leu His Cys Thr Arg Asn Tyr
 165 170 175
 Ile His Met His Leu Phe Val Ser Phe Ile Leu Arg Ala Leu Ser Asn
 180 185 190
 Phe Ile Lys Asp Ala Val Leu Phe Ser Ser Asp Asp Val Thr Tyr Cys
 195 200 205
 Asp Ala His Arg Ala Gly Cys Lys Leu Val Met Val Leu Phe Gln Tyr
 210 215 220
 Cys Ile Met Ala Asn Tyr Ser Trp Leu Leu Val Glu Gly Leu Tyr Leu
 225 230 235 240
 His Thr Leu Leu Ala Ile Ser Phe Phe Ser Glu Arg Lys Tyr Leu Gln
 245 250 255

Gly Phe Val Ala Phe Gly Trp Gly Ser Pro Ala Ile Phe Val Ala Leu
 260 265 270

Trp Ala Ile Ala Arg His Phe Leu Glu Asp Val Gly Cys Trp Asp Ile
 275 280 285

Asn Ala Asn Ala Ser Ile Trp Trp Ile Ile Arg Gly Pro Val Ile Leu
 290 295 300

Ser Ile Leu Ile Asn Phe Ile Leu Phe Ile Asn Ile Leu Arg Ile Leu
 305 310 315 320

Met Arg Lys Leu Arg Thr Gln Glu Thr Arg Gly Asn Glu Val Ser His
 325 330 335

Tyr Lys Arg Leu Ala Arg Ser Thr Leu Leu Leu Ile Pro Leu Phe Gly
 340 345 350

Ile His Tyr Ile Val Phe Ala Phe Ser Pro Glu Asp Ala Met Glu Ile
 355 360 365

Gln Leu Phe Phe Glu Leu Ala Leu Ala Ser Phe Gln Gly Leu Val Val
 370 375 380

Ala Val Leu Tyr Cys Phe Leu Asn Gly Glu Val Gln Leu Glu Val Gln
 385 390 395 400

Lys Lys Trp Gln Gln Trp His Leu Arg Glu Phe Pro Leu His Pro Val
 405 410 415

Ala Ser Phe Ser Asn Ser Thr Lys Ala Ser His Leu Glu Gln Ser Gln
 420 425 430

Gly Thr Cys Arg Thr Ser Ile Ile
 435 440

<210> 68

<211> 449

<212> PRT

<213> Rattus norvegicus

<400> 68

Met Leu Ser Thr Met Arg Pro Arg Leu Ser Leu Leu Leu Arg Leu
 1 5 10 15

Leu Leu Leu Thr Lys Ala Ala His Thr Val Gly Val Pro Pro Arg Leu
 20 25 30

Cys Asp Val Arg Arg Val Leu Leu Glu Glu Arg Ala His Cys Leu Gln
 35 40 45
 Gln Leu Ser Lys Glu Lys Lys Gly Ala Leu Gly Pro Glu Thr Ala Ser
 50 55 60
 Gly Cys Glu Gly Leu Trp Asp Asn Met Ser Cys Trp Pro Ser Ser Ala
 65 70 75 80
 Pro Ala Arg Thr Val Glu Val Gln Cys Pro Lys Phe Leu Leu Met Leu
 85 90 95
 Ser Asn Lys Asn Gly Ser Leu Phe Arg Asn Cys Thr Gln Asp Gly Trp
 100 105 110
 Ser Glu Thr Phe Pro Arg Pro Asp Leu Ala Cys Gly Val Asn Ile Asn
 115 120 125
 Asn Ser Phe Asn Glu Arg Arg His Ala Tyr Leu Leu Lys Leu Lys Val
 130 135 140
 Met Tyr Thr Val Gly Tyr Ser Ser Ser Leu Ala Met Leu Leu Val Ala
 145 150 155 160
 Leu Ser Ile Leu Cys Ser Phe Arg Arg Leu His Cys Thr Arg Asn Tyr
 165 170 175
 Ile His Met His Leu Phe Val Ser Phe Ile Leu Arg Ala Leu Ser Asn
 180 185 190
 Phe Ile Lys Asp Ala Val Leu Phe Ser Ser Asp Asp Val Thr Tyr Cys
 195 200 205
 Asp Ala His Lys Val Gly Cys Lys Leu Val Met Ile Phe Phe Gln Tyr
 210 215 220
 Cys Ile Met Ala Asn Tyr Ala Trp Leu Leu Val Glu Gly Leu Tyr Leu
 225 230 235 240
 His Thr Leu Leu Ala Ile Ser Phe Phe Ser Glu Arg Lys Tyr Leu Gln
 245 250 255
 Ala Phe Val Leu Leu Gly Trp Gly Ser Pro Ala Ile Phe Val Ala Leu
 260 265 270
 Trp Ala Ile Thr Arg His Phe Leu Glu Asn Thr Gly Cys Trp Asp Ile
 275 280 285

Asn Ala Asn Ala Ser Val Trp Trp Val Ile Arg Gly Pro Val Ile Leu
 290 295 300
 Ser Ile Leu Ile Asn Phe Ile Phe Phe Ile Asn Ile Leu Arg Ile Leu
 305 310 315 320
 Met Arg Lys Leu Arg Thr Gln Glu Thr Arg Gly Ser Glu Thr Asn His
 325 330 335
 Tyr Lys Arg Leu Ala Lys Ser Thr Leu Leu Leu Ile Pro Leu Phe Gly
 340 345 350
 Ile His Tyr Ile Val Phe Ala Phe Ser Pro Glu Asp Ala Met Glu Val
 355 360 365
 Gln Leu Phe Phe Glu Leu Ala Leu Gly Ser Phe Gln Gly Leu Val Val
 370 375 380
 Ala Val Leu Tyr Cys Phe Leu Asn Gly Glu Val Gln Leu Glu Val Gln
 385 390 395 400
 Lys Lys Trp Arg Gln Trp His Leu Gln Glu Phe Pro Leu Arg Pro Val
 405 410 415
 Ala Phe Asn Asn Ser Phe Ser Asn Ala Thr Asn Gly Pro Thr His Ser
 420 425 430
 Thr Lys Ala Ser Thr Glu Gln Ser Arg Ser Ile Pro Arg Ala Ser Ile
 435 440 445
 Ile

<210> 69

<211> 249

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:7tm_2,7
transmembrane receptor domain sequence

<400> 69

Ala Leu Leu Leu Ser Val Ile Tyr Thr Val Gly Tyr Ser Leu Ser Leu
 1 5 10 15

Val Cys Leu Leu Leu Ala Ile Ala Ile Phe Leu Phe Phe Arg Lys Leu
 20 25 30
 Arg Cys Thr Arg Asn Tyr Ile His Leu Asn Leu Phe Leu Ser Leu Ile
 35 40 45
 Leu Arg Ala Leu Ser Phe Leu Ile Gly Asp Ala Val Leu Leu Asn Ser
 50 55 60
 Gly Gly Leu Gly Cys Lys Val Val Ala Val Phe Leu His Tyr Phe Phe
 65 70 75 80
 Leu Ala Asn Phe Phe Trp Met Leu Val Glu Gly Leu Tyr Leu Tyr Thr
 85 90 95
 Leu Leu Val Glu Thr Phe Phe Ser Glu Arg Leu Arg Leu Leu Trp Tyr
 100 105 110
 Leu Leu Ile Gly Trp Gly Val Pro Ala Val Val Val Gly Ile Trp Ala
 115 120 125
 Leu Val Arg Pro Lys Gly Tyr Gly Asn Glu Gly Cys Cys Trp Leu Ser
 130 135 140
 Asn Glu Gly Gly Phe Trp Trp Ile Phe Lys Gly Pro Val Leu Leu Ile
 145 150 155 160
 Ile Leu Val Asn Phe Ile Phe Phe Ile Asn Ile Leu Arg Val Leu Val
 165 170 175
 Gln Lys Leu Arg Ser Pro Gln Thr Gly Lys Thr Asp Leu Tyr Arg Lys
 180 185 190
 Leu Val Lys Ser Thr Leu Val Leu Leu Pro Leu Leu Gly Val Thr Trp
 195 200 205
 Ile Leu Phe Leu Phe Ala Pro Glu Ser Gln Ser Ser Leu Val Phe Leu
 210 215 220
 Tyr Leu Phe Leu Ile Leu Asn Ser Phe Gln Gly Phe Phe Val Ala Val
 225 230 235 240
 Leu Tyr Cys Phe Leu Asn Gly Glu Val
 245

<210> 70

<211> 249

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:HRM, Hormone
receptor domain sequence

<400> 70

Ala Leu Leu Leu Ser Val Ile Tyr Thr Val Gly Tyr Ser Leu Ser Leu
1 5 10 15

Val Cys Leu Leu Leu Ala Ile Ala Ile Phe Leu Phe Phe Arg Lys Leu
20 25 30

Arg Cys Thr Arg Asn Tyr Ile His Leu Asn Leu Phe Leu Ser Leu Ile
35 40 45

Leu Arg Ala Leu Ser Phe Leu Ile Gly Asp Ala Val Leu Leu Asn Ser
50 55 60

Gly Gly Leu Gly Cys Lys Val Val Ala Val Phe Leu His Tyr Phe Phe
65 70 75 80

Leu Ala Asn Phe Phe Trp Met Leu Val Glu Gly Leu Tyr Leu Tyr Thr
85 90 95

Leu Leu Val Glu Thr Phe Phe Ser Glu Arg Leu Arg Leu Leu Trp Tyr
100 105 110

Leu Leu Ile Gly Trp Gly Val Pro Ala Val Val Val Gly Ile Trp Ala
115 120 125

Leu Val Arg Pro Lys Gly Tyr Gly Asn Glu Gly Cys Cys Trp Leu Ser
130 135 140

Asn Glu Gly Gly Phe Trp Trp Ile Phe Lys Gly Pro Val Leu Leu Ile
145 150 155 160

Ile Leu Val Asn Phe Ile Phe Phe Ile Asn Ile Leu Arg Val Leu Val
165 170 175

Gln Lys Leu Arg Ser Pro Gln Thr Gly Lys Thr Asp Leu Tyr Arg Lys
180 185 190

Leu Val Lys Ser Thr Leu Val Leu Leu Pro Leu Leu Gly Val Thr Trp
195 200 205

Ile Leu Phe Leu Phe Ala Pro Glu Ser Gln Ser Ser Leu Val Phe Leu

210 215 220
 Tyr Leu Phe Leu Ile Leu Asn Ser Phe Gln Gly Phe Phe Val Ala Val
 225 230 235 240

Leu Tyr Cys Phe Leu Asn Gly Glu Val
 245

<210> 71
 <211> 67
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:HormR, Domain
 present in hormone receptors sequence

<400> 71
 Gly Cys Pro Ala Thr Trp Asp Gly Ile Ile Cys Trp Pro Gln Thr Pro
 1 5 10 15

Ala Gly Gln Leu Val Glu Val Pro Cys Pro Asp Tyr Phe Ser Gly Phe
 20 25 30

Ser Asn Lys Thr Gly Ala Ser Arg Asn Cys Thr Glu Asn Gly Gly Trp
 35 40 45

Ser Pro Pro Phe Pro Asn Tyr Ser Asn Cys Thr Ser Asn Asp Tyr Asn
 50 55 60

Glu Leu Lys
 65

<210> 72
 <211> 558
 <212> PRT
 <213> Homo sapiens

<400> 72
 Ala Val Arg Ala Asp Leu Pro Arg Pro Glu Val Ala Pro Leu Arg Gly
 1 5 10 15

Leu Pro Arg Pro Lys Phe Ser Ala Pro Arg Gly Leu Arg Ala Pro Arg
 20 25 30

Ser Pro Arg Pro Glu Val Ser Ala Arg Thr Met Arg Leu Gly Ser Pro

290 295 300
 Leu Cys Leu Leu Val Val Val Ala Val Ala Ile Gly Trp Val Cys Arg
 305 310 315 320
 Asp Arg Cys Leu Gln His Ser Tyr Ala Gly Ala Trp Ala Val Ser Pro
 325 330 335
 Glu Thr Glu Leu Thr Gly Glu Phe Ala Val Gly Ser Ser Arg Phe Trp
 340 345 350
 Gly Ala Gln Gly Arg Leu Gly Cys Gln Leu Ser Phe Arg Val Ser Lys
 355 360 365
 Asn Phe Gln Lys Ala Lys Val Pro Cys Leu Glu Gln Leu Leu Phe Leu
 370 375 380
 Glu Thr Gln Arg Ser Pro Arg Trp Cys Ala Arg His Phe Leu Gln Pro
 385 390 395 400
 Pro Leu Gly Met Gly Trp His Pro Gly Val His Phe Val Thr Leu Arg
 405 410 415
 Trp Asp Phe Pro Asn Met His Arg Ser Arg Glu Thr Ser Ala Arg Pro
 420 425 430
 Pro Arg Ser Pro Val Pro Ser Pro Asp Gln Gly Val Gln Gly Gly Ser
 435 440 445
 Arg His Arg Arg Pro Ala Pro Met Gly Cys Pro Glu Trp Val Gln Ala
 450 455 460
 Pro Ala Pro Ser Pro Arg Gly Val Ser Arg Ala Gly Pro Gly Thr Gly
 465 470 475 480
 Ala Gln Pro Pro Trp Gly Val Gln Gly Gly Ser Arg His Arg Arg Pro
 485 490 495
 Ala Pro Met Gly Cys Pro Glu Trp Val Gln Ala Pro Ala Pro Ser Pro
 500 505 510
 Arg Gly Val Ser Arg Ala Gly Pro Gly Thr Gly Ala Gln Pro Leu Trp
 515 520 525
 Gly Val Trp Ser Gly Ser Gly His Arg Gln Leu Leu Ser Val Ala Ala
 530 535 540
 Thr Pro Ala Ala Leu Val Cys Pro Ser Val Pro Gly Ala Thr

545

550

555

<210> 73
 <211> 302
 <212> PRT
 <213> Homo sapiens

<400> 73

Met Arg Leu Gly Ser Pro Gly Leu Leu Phe Leu Leu Phe Ser Ser Leu
 1 5 10 15

Arg Ala Asp Thr Gln Glu Lys Glu Val Arg Ala Met Val Gly Ser Asp
 20 25 30

Val Glu Leu Ser Cys Ala Cys Pro Glu Gly Ser Arg Phe Asp Leu Asn
 35 40 45

Asp Val Tyr Val Tyr Trp Gln Thr Ser Glu Ser Lys Thr Val Val Thr
 50 55 60

Tyr His Ile Pro Gln Asn Ser Ser Leu Glu Asn Val Asp Ser Arg Tyr
 65 70 75 80

Arg Asn Arg Ala Leu Met Ser Pro Ala Gly Met Leu Arg Gly Asp Phe
 85 90 95

Ser Leu Arg Leu Phe Asn Val Thr Pro Gln Asp Glu Gln Lys Phe His
 100 105 110

Cys Leu Val Leu Ser Gln Ser Leu Gly Phe Gln Glu Val Leu Ser Val
 115 120 125

Glu Val Thr Leu His Val Ala Ala Asn Phe Ser Val Pro Val Val Ser
 130 135 140

Ala Pro His Ser Pro Ser Gln Asp Glu Leu Thr Phe Thr Cys Thr Ser
 145 150 155 160

Ile Asn Gly Tyr Pro Arg Pro Asn Val Tyr Trp Ile Asn Lys Thr Asp
 165 170 175

Asn Ser Leu Leu Asp Gln Ala Leu Gln Asn Asp Thr Val Phe Leu Asn
 180 185 190

Met Arg Gly Leu Tyr Asp Val Val Ser Val Leu Arg Ile Ala Arg Thr
 195 200 205

Pro Ser Val Asn Ile Gly Cys Cys Ile Glu Asn Val Leu Leu Gln Gln
 210 215 220

Asn Leu Thr Val Gly Ser Gln Thr Gly Asn Asp Ile Gly Glu Arg Asp
 225 230 235 240

Lys Ile Thr Glu Asn Pro Val Ser Thr Gly Glu Lys Asn Ala Ala Thr
 245 250 255

Trp Ser Ile Leu Ala Val Leu Cys Leu Leu Val Val Val Ala Val Ala
 260 265 270

Ile Gly Trp Val Cys Arg Asp Arg Cys Leu Gln His Ser Tyr Ala Gly
 275 280 285

Ala Trp Ala Val Ser Pro Glu Thr Glu Leu Thr Gly His Val
 290 295 300

<210> 74

<211> 309

<212> PRT

<213> Homo sapiens

<400> 74

Met Arg Leu Gly Ser Pro Gly Leu Leu Phe Leu Leu Phe Ser Ser Leu
 1 5 10 15

Arg Ala Asp Thr Gln Glu Lys Glu Val Arg Ala Met Val Gly Ser Asp
 20 25 30

Val Glu Leu Ser Cys Ala Cys Pro Glu Gly Ser Arg Phe Asp Leu Asn
 35 40 45

Asp Val Tyr Val Tyr Trp Gln Thr Ser Glu Ser Lys Thr Val Val Thr
 50 55 60

Tyr His Ile Pro Gln Asn Ser Ser Leu Glu Asn Val Asp Ser Arg Tyr
 65 70 75 80

Arg Asn Arg Ala Leu Met Ser Pro Ala Gly Met Leu Arg Gly Asp Phe
 85 90 95

Ser Leu Arg Leu Phe Asn Val Thr Pro Gln Asp Glu Gln Lys Phe His
 100 105 110

Cys Leu Val Leu Ser Gln Ser Leu Gly Phe Gln Glu Val Leu Ser Val
 115 120 125

Glu Val Thr Leu His Val Ala Ala Asn Phe Ser Val Pro Val Val Ser
 130 135 140

Ala Pro His Ser Pro Ser Gln Asp Glu Leu Thr Phe Thr Cys Thr Ser
 145 150 155 160

Ile Asn Gly Tyr Pro Arg Pro Asn Val Tyr Trp Ile Asn Lys Thr Asp
 165 170 175

Asn Ser Leu Leu Asp Gln Ala Leu Gln Asn Asp Thr Val Phe Leu Asn
 180 185 190

Met Arg Gly Leu Tyr Asp Val Val Ser Val Leu Arg Ile Ala Arg Thr
 195 200 205

Pro Ser Val Asn Ile Gly Cys Cys Ile Glu Asn Val Leu Leu Gln Gln
 210 215 220

Asn Leu Thr Val Gly Ser Gln Thr Gly Asn Asp Ile Gly Glu Arg Asp
 225 230 235 240

Lys Ile Thr Glu Asn Pro Val Ser Thr Gly Glu Lys Asn Ala Ala Thr
 245 250 255

Trp Ser Ile Leu Ala Val Leu Cys Leu Leu Val Val Val Ala Val Ala
 260 265 270

Ile Gly Trp Val Cys Arg Asp Arg Cys Leu Gln His Ser Tyr Ala Gly
 275 280 285

Ala Trp Ala Val Ser Pro Glu Thr Glu Leu Thr Glu Ser Trp Asn Leu
 290 295 300

Leu Leu Leu Leu Ser
 305

<210> 75

<211> 347

<212> PRT

<213> Mus musculus

<400> 75

Met Gln Leu Lys Cys Pro Cys Phe Val Ser Leu Gly Thr Arg Gln Pro
 1 5 10 15

Val Trp Lys Lys Leu His Val Ser Ser Gly Phe Phe Ser Gly Leu Gly

20 25 30
 Leu Phe Leu Leu Leu Leu Ser Ser Leu Cys Ala Ala Ser Ala Glu Thr
 35 40 45
 Glu Val Gly Ala Met Val Gly Ser Asn Val Val Leu Ser Cys Ile Asp
 50 55 60
 Pro His Arg Arg His Phe Asn Leu Ser Gly Leu Tyr Val Tyr Trp Gln
 65 70 75 80
 Ile Glu Asn Pro Glu Val Ser Val Thr Tyr Tyr Leu Pro Tyr Lys Ser
 85 90 95
 Pro Gly Ile Asn Val Asp Ser Ser Tyr Lys Asn Arg Gly His Leu Ser
 100 105 110
 Leu Asp Ser Met Lys Gln Gly Asn Phe Ser Leu Tyr Leu Lys Asn Val
 115 120 125
 Thr Pro Gln Asp Thr Gln Glu Phe Thr Cys Arg Val Phe Met Asn Thr
 130 135 140
 Ala Thr Glu Leu Val Lys Ile Leu Glu Glu Val Val Arg Leu Arg Val
 145 150 155 160
 Ala Ala Asn Phe Ser Thr Pro Val Ile Ser Thr Ser Asp Ser Ser Asn
 165 170 175
 Pro Gly Gln Glu Arg Thr Tyr Thr Cys Met Ser Lys Asn Gly Tyr Pro
 180 185 190
 Glu Pro Asn Leu Tyr Trp Ile Asn Thr Thr Asp Asn Ser Leu Ile Asp
 195 200 205
 Thr Ala Leu Gln Asn Asn Thr Val Tyr Leu Asn Lys Leu Gly Leu Tyr
 210 215 220
 Asp Val Ile Ser Thr Leu Arg Leu Pro Trp Thr Ser His Gly Asp Val
 225 230 235 240
 Leu Cys Cys Val Glu Asn Val Ala Leu His Gln Asn Ile Thr Ser Ile
 245 250 255
 Ser Gln Ala Glu Ser Phe Thr Gly Asn Asn Thr Lys Asn Pro Gln Glu
 260 265 270
 Thr His Asn Asn Glu Leu Lys Val Leu Val Pro Val Leu Ala Val Leu

Ala Thr Glu Leu Val Lys Ile Leu Glu Glu Val Val Arg Leu Arg Val
 145 150 155 160

Ala Ala Asn Phe Ser Thr Pro Val Ile Ser Thr Ser Asp Ser Ser Asn
 165 170 175

Pro Gly Gln Glu Arg Thr Tyr Thr Cys Met Ser Lys Asn Gly Tyr Pro
 180 185 190

Glu Pro Asn Leu Tyr Trp Ile Asn Thr Thr Asp Asn Ser Leu Ile Asp
 195 200 205

Thr Ala Leu Gln Asn Asn Thr Val Tyr Leu Asn Lys Leu Gly Leu Tyr
 210 215 220

Asp Val Ile Ser Thr Leu Arg Leu Pro Trp Thr Ser Arg Gly Asp Val
 225 230 235 240

Leu Cys Cys Val Glu Asn Val Ala Leu His Gln Asn Ile Thr Ser Ile
 245 250 255

Ser Gln Ala Glu Ser Phe Thr Gly Asn Asn Thr Lys Asn Pro Gln Glu
 260 265 270

Thr His Asn Asn Glu Leu Lys Val Leu Val Pro Val Leu Ala Val Leu
 275 280 285

Ala Ala Ala Ala Phe Val Ser Phe Ile Ile Tyr Arg Arg Thr Arg Pro
 290 295 300

His Arg Ser Tyr Thr Gly Pro Lys Thr Val Gln Leu Glu Leu Thr Asp
 305 310 315 320

His Ala

<210> 77

<211> 80

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:IGv,
 Immunoglobulin domain sequence

<400> 77

Ser Val Thr Leu Ser Cys Lys Ala Ser Gly Phe Thr Phe Ser Ser Tyr

Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val
 130 135 140

Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr
 145 150 155 160

Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser
 165 170 175

Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn
 180 185 190

Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr
 195 200 205

Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu
 210 215 220

Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His
 225 230 235 240

Leu Val Ile Leu Gly Ala Ile Arg Val Asn Ala Thr Ala Asn Asp Val
 245 250 255

Phe Tyr Cys Thr Phe Trp Arg Ser Gln Pro Gly Gln Asn His Thr Ala
 260 265 270

Glu Leu Ile Ile Pro Glu Leu Pro Ala Thr His Pro Pro Gln Asn Arg
 275 280 285

Thr His Trp Val Leu Leu Gly Ser Ile Leu Leu Cys Leu Gly Val Ala
 290 295 300

Leu Thr Phe Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys
 305 310 315 320

Lys Cys Gly Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His
 325 330 335

Leu Glu Glu Thr
 340

<210> 79

<211> 290

<212> PRT

<213> Mus musculus

<400> 79

Met Arg Ile Phe Ala Gly Ile Ile Phe Thr Ala Cys Cys His Leu Leu
1 5 10 15

Arg Ala Phe Thr Ile Thr Ala Pro Lys Asp Leu Tyr Val Val Glu Tyr
20 25 30

Gly Ser Asn Val Thr Met Glu Cys Arg Phe Pro Val Glu Arg Glu Leu
35 40 45

Asp Leu Leu Ala Leu Val Val Tyr Trp Glu Lys Glu Asp Glu Gln Val
50 55 60

Ile Gln Phe Val Ala Gly Glu Glu Asp Leu Lys Pro Gln His Ser Asn
65 70 75 80

Phe Arg Gly Arg Ala Ser Leu Pro Lys Asp Gln Leu Leu Lys Gly Asn
85 90 95

Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val Tyr
100 105 110

Cys Cys Ile Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Leu
115 120 125

Lys Val Asn Ala Pro Tyr Arg Lys Ile Asn Gln Arg Ile Ser Val Asp
130 135 140

Pro Ala Thr Ser Glu His Glu Leu Ile Cys Gln Ala Glu Gly Tyr Pro
145 150 155 160

Glu Ala Glu Val Ile Trp Thr Asn Ser Asp His Gln Pro Val Ser Gly
165 170 175

Lys Arg Ser Val Thr Thr Ser Arg Thr Glu Gly Met Leu Leu Asn Val
180 185 190

Thr Ser Ser Leu Arg Val Asn Ala Thr Ala Asn Asp Val Phe Tyr Cys
195 200 205

Thr Phe Trp Arg Ser Gln Pro Gly Gln Asn His Thr Ala Glu Leu Ile
210 215 220

Ile Pro Glu Leu Pro Ala Thr His Pro Pro Gln Asn Arg Thr His Trp
225 230 235 240

Val Leu Leu Gly Ser Ile Leu Leu Phe Leu Ile Val Val Ser Thr Val
245 250 255

Leu Leu Phe Leu Arg Lys Gln Val Arg Met Leu Asp Val Glu Lys Cys
 260 265 270

Gly Val Glu Asp Thr Ser Ser Lys Asn Arg Asn Asp Thr Gln Phe Glu
 275 280 285

Glu Thr
 290

<210> 80
 <211> 176
 <212> PRT
 <213> Homo sapiens

<400> 80
 Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val Lys Val
 1 5 10 15

Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val Asp Pro
 20 25 30

Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr Pro Lys
 35 40 45

Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser Gly Lys
 50 55 60

Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn Val Thr
 65 70 75 80

Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr Cys Thr
 85 90 95

Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu Val Ile
 100 105 110

Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His Leu Val
 115 120 125

Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr Phe Ile
 130 135 140

Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys Gly Ile
 145 150 155 160

Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu Glu Glu Thr

165

170

175

<210> 81

<211> 273

<212> PRT

<213> Homo sapiens

<400> 81

Met Ile Phe Leu Leu Met Leu Ser Leu Glu Leu Gln Leu His Gln
 1 5 10 15

Ile Ala Ala Leu Phe Thr Val Thr Val Pro Lys Glu Leu Tyr Ile Ile
 20 25 30

Glu His Gly Ser Asn Val Thr Leu Glu Cys Asn Phe Asp Thr Gly Ser
 35 40 45

His Val Asn Leu Gly Ala Ile Thr Ala Ser Leu Gln Lys Val Glu Asn
 50 55 60

Asp Thr Ser Pro His Arg Glu Arg Ala Thr Leu Leu Glu Glu Gln Leu
 65 70 75 80

Pro Leu Gly Lys Ala Ser Phe His Ile Pro Gln Val Gln Val Arg Asp
 85 90 95

Glu Gly Gln Tyr Gln Cys Ile Ile Ile Tyr Gly Val Ala Trp Asp Tyr
 100 105 110

Lys Tyr Leu Thr Leu Lys Val Lys Ala Ser Tyr Arg Lys Ile Asn Thr
 115 120 125

His Ile Leu Lys Val Pro Glu Thr Asp Glu Val Glu Leu Thr Cys Gln
 130 135 140

Ala Thr Gly Tyr Pro Leu Ala Glu Val Ser Trp Pro Asn Val Ser Val
 145 150 155 160

Pro Ala Asn Thr Ser His Ser Arg Thr Pro Glu Gly Leu Tyr Gln Val
 165 170 175

Thr Ser Val Leu Arg Leu Lys Pro Pro Pro Gly Arg Asn Phe Ser Cys
 180 185 190

Val Phe Trp Asn Thr His Val Arg Glu Leu Thr Leu Ala Ser Ile Asp
 195 200 205

Leu Gln Ser Gln Met Glu Pro Arg Thr His Pro Thr Trp Leu Leu His
 210 215 220

Ile Phe Ile Pro Ser Cys Ile Ile Ala Phe Ile Phe Ile Ala Thr Val
 225 230 235 240

Ile Ala Leu Arg Lys Gln Leu Cys Gln Lys Leu Tyr Ser Ser Lys Asp
 245 250 255

Thr Thr Lys Arg Pro Val Thr Thr Thr Lys Arg Glu Val Asn Ser Ala
 260 265 270

Ile

<210> 82

<211> 247

<212> PRT

<213> Mus musculus

<400> 82

Met Leu Leu Leu Leu Pro Ile Leu Asn Leu Ser Leu Gln Leu His Pro
 1 5 10 15

Val Ala Ala Leu Phe Thr Val Thr Ala Pro Lys Glu Val Tyr Thr Val
 20 25 30

Asp Val Gly Ser Ser Val Ser Leu Glu Cys Asp Phe Asp Arg Arg Glu
 35 40 45

Cys Thr Glu Leu Glu Gly Ile Arg Ala Ser Leu Gln Lys Val Glu Asn
 50 55 60

Asp Thr Ser Leu Gln Ser Glu Arg Ala Thr Leu Leu Glu Glu Gln Leu
 65 70 75 80

Pro Leu Gly Lys Ala Leu Phe His Ile Pro Ser Val Gln Val Arg Asp
 85 90 95

Ser Gly Gln Tyr Arg Cys Leu Val Ile Cys Gly Ala Ala Trp Asp Tyr
 100 105 110

Lys Tyr Leu Thr Val Lys Val Lys Ala Ser Tyr Met Arg Ile Asp Thr
 115 120 125

Arg Ile Leu Glu Val Pro Gly Thr Gly Glu Val Gln Leu Thr Cys Gln
 130 135 140

Ala Arg Gly Tyr Pro Leu Ala Glu Val Ser Trp Gln Asn Val Ser Val
 145 150 155 160

Pro Ala Asn Thr Ser His Ile Arg Thr Pro Glu Gly Leu Tyr Gln Val
 165 170 175

Thr Ser Val Leu Arg Leu Lys Pro Gln Pro Ser Arg Asn Phe Ser Cys
 180 185 190

Met Phe Trp Asn Ala His Met Lys Glu Leu Thr Ser Ala Ile Ile Asp
 195 200 205

Pro Leu Ser Arg Met Glu Pro Lys Val Pro Arg Thr Trp Pro Leu His
 210 215 220

Val Phe Ile Pro Ala Cys Thr Ile Ala Leu Ile Phe Leu Ala Ile Val
 225 230 235 240

Ile Ile Gln Arg Lys Arg Ile
 245

<210> 83

<211> 85

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:IG,
 Immunoglobulin domain sequence

<400> 83

Pro Pro Ser Val Thr Val Lys Glu Gly Glu Ser Val Thr Leu Ser Cys
 1 5 10 15

Glu Ala Ser Gly Asn Pro Pro Pro Thr Val Thr Trp Tyr Lys Gln Gly
 20 25 30

Gly Lys Leu Leu Ala Glu Ser Gly Arg Phe Ser Val Ser Arg Ser Gly
 35 40 45

Gly Asn Ser Thr Leu Thr Ile Ser Asn Val Thr Pro Glu Asp Ser Gly
 50 55 60

Thr Tyr Thr Cys Ala Ala Thr Asn Ser Ser Gly Ser Ala Ser Ser Gly
65 70 75 80

Thr Thr Leu Thr Val
85

<210> 84
<211> 78
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: IGv,
Immunoglobulin V-Type domain sequence

<400> 84
Ser Val Thr Leu Ser Cys Lys Ala Ser Gly Phe Thr Phe Ser Ser Tyr
1 5 10 15

Tyr Val Ser Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Leu
20 25 30

Gly Tyr Ile Gly Ser Asp Val Ser Tyr Ser Glu Ala Ser Tyr Lys Gly
35 40 45

Arg Val Thr Ile Ser Lys Asp Asn Ser Lys Asn Asp Val Ser Leu Thr
50 55 60

Ile Ser Asn Leu Arg Val Glu Asp Thr Gly Thr Tyr Tyr Cys
65 70 75

<210> 85
<211> 317
<212> PRT
<213> *Xenopus laevis*

<400> 85
Met Gly Lys Trp Leu Leu Tyr Val Thr Thr Leu Leu Leu Phe Val Ser
1 5 10 15

Pro His Pro Ser Leu Ser Asn Ile Thr Thr Ala Ala Pro Pro Leu Cys
20 25 30

Gly Ser Pro Val Phe Ser Ser Arg Ile Val Gly Gly Thr Asp Thr Arg
35 40 45

Gln Gly Ala Trp Pro Trp Gln Val Ser Leu Glu Phe Asn Gly Ser His
 50 55 60
 Ile Cys Gly Gly Ser Ile Ile Ser Asp Gln Trp Ile Leu Thr Ala Thr
 65 70 75 80
 His Cys Ile Glu His Pro Asp Leu Pro Ser Gly Cys Gly Val Arg Leu
 85 90 95
 Gly Ala Tyr Gln Leu Tyr Val Lys Asn Pro His Glu Met Thr Val Lys
 100 105 110
 Val Asp Ile Ile Tyr Ile Asn Ser Glu Phe Asn Gly Pro Gly Thr Ser
 115 120 125
 Gly Asp Ile Ala Leu Leu Lys Leu Ser Ser Pro Ile Lys Phe Thr Glu
 130 135 140
 Tyr Ile Leu Pro Ile Cys Leu Pro Ala Ser Pro Val Thr Phe Ser Ser
 145 150 155 160
 Gly Thr Glu Cys Trp Ile Thr Gly Trp Gly Gln Thr Gly Ser Glu Val
 165 170 175
 Pro Leu Gln Tyr Pro Ala Thr Leu Gln Lys Val Met Val Pro Ile Ile
 180 185 190
 Asn Arg Asp Ser Cys Glu Lys Met Tyr His Ile Asn Ser Val Ile Ser
 195 200 205
 Glu Thr Glu Ile Leu Ile Gln Ser Asp Gln Ile Cys Ala Gly Tyr Gln
 210 215 220
 Ala Gly Gln Lys Asp Gly Cys Gln Gly Asp Ser Gly Gly Pro Leu Val
 225 230 235 240
 Cys Lys Ile Gln Gly Phe Trp Tyr Gln Ala Gly Ile Val Ser Trp Gly
 245 250 255
 Glu Arg Cys Ala Ala Lys Asn Arg Pro Gly Val Tyr Thr Phe Val Pro
 260 265 270
 Ala Tyr Glu Thr Trp Ile Ser Glu Arg Ser Val Ile Ser Phe Lys Pro
 275 280 285
 Phe Thr Ser Ser Ser Ser Pro Ser Ser Ser Ser Val Leu Arg Ala Ser
 290 295 300

Ala Ile Leu Leu Gly Val Ser Leu Leu Leu His Asp Trp
 305 310 315

<210> 86
 <211> 342
 <212> PRT
 <213> Rattus norvegicus

<400> 86
 Met Ala Leu Arg Val Gly Leu Gly Leu Gly Gln Leu Glu Ala Leu Phe
 1 5 10 15

Val Leu Leu Leu Ile Gly Leu Leu Gln Ser Arg Ile Gly Ala Asp Gly
 20 25 30

Thr Glu Ala Ser Cys Gly Ala Val Ile Gln Pro Arg Ile Thr Gly Gly
 35 40 45

Gly Ser Ala Lys Pro Gly Gln Trp Pro Trp Gln Val Ser Ile Thr Tyr
 50 55 60

Asn Gly Val His Val Cys Gly Gly Ser Leu Val Ser Asn Gln Trp Val
 65 70 75 80

Val Ser Ala Ala His Cys Phe Pro Arg Glu His Ser Lys Glu Glu Tyr
 85 90 95

Glu Val Lys Leu Gly Ala His Gln Leu Asp Ser Phe Ser Asn Asp Ile
 100 105 110

Val Val His Thr Val Ala Gln Ile Ile Ser His Ser Ser Tyr Arg Glu
 115 120 125

Glu Gly Ser Gln Gly Asp Ile Ala Leu Ile Arg Leu Ser Ser Pro Val
 130 135 140

Thr Phe Ser Arg Tyr Ile Arg Pro Ile Cys Leu Pro Ala Ala Asn Ala
 145 150 155 160

Ser Phe Pro Asn Gly Leu His Cys Thr Val Thr Gly Trp Gly His Val
 165 170 175

Ala Pro Ser Val Ser Leu Gln Thr Pro Arg Pro Leu Gln Gln Leu Glu
 180 185 190

Val Pro Leu Ile Ser Arg Glu Thr Cys Ser Cys Leu Tyr Asn Ile Asn
 195 200 205

Ala Val Pro Glu Glu Pro His Thr Ile Gln Gln Asp Met Leu Cys Ala
 210 215 220

Gly Tyr Val Lys Gly Gly Lys Asp Ala Cys Gln Gly Asp Ser Gly Gly
 225 230 235 240

Pro Leu Ser Cys Pro Ile Asp Gly Leu Trp Tyr Leu Ala Gly Ile Val
 245 250 255

Ser Trp Gly Asp Ala Cys Gly Ala Pro Asn Arg Pro Gly Val Tyr Thr
 260 265 270

Leu Thr Ser Thr Tyr Ala Ser Trp Ile His His His Val Ala Glu Leu
 275 280 285

Gln Pro Arg Val Val Pro Gln Thr Gln Glu Ser Gln Pro Asp Gly His
 290 295 300

Leu Cys Asn His His Pro Val Phe Asn Leu Ala Ala Ala Gln Lys Leu
 305 310 315 320

Ser Arg Pro Ile Leu Phe Leu Pro Leu Ser Leu Thr Leu Gly Leu Phe
 325 330 335

Ser Leu Trp Leu Glu His
 340

<210> 87

<211> 342

<212> PRT

<213> Rattus norvegicus

<400> 87

Met Ala Leu Arg Val Gly Leu Gly Leu Gly Gln Leu Glu Ala Leu Phe
 1 5 10 15

Ile Leu Leu Leu Ile Gly Leu Leu Gln Ser Arg Ile Gly Ala Asp Gly
 20 25 30

Thr Glu Ala Ser Cys Gly Ala Val Ile Gln Pro Arg Ile Thr Gly Gly
 35 40 45

Gly Ser Ala Lys Pro Gly Gln Trp Pro Trp Gln Val Ser Ile Thr Tyr
 50 55 60

Asn Gly Val His Val Cys Gly Gly Ser Leu Val Ser Asn Gln Trp Val

325

330

Ser Leu Trp Leu Glu His
340

<210> 88

<211> 290

<212> PRT

<213> Homo sapiens

<400> 88

Met Arg Arg Pro Ala Ala Val Pro Leu Leu Leu Leu Cys Phe Gly
1 5 10 15

Ser Gln Arg Ala Lys Ala Ala Thr Ala Cys Gly Arg Pro Arg Met Leu
20 25 30

Asn Arg Met Val Gly Gly Gln Asp Thr Gln Glu Gly Glu Trp Pro Trp
35 40 45

Gln Val Ser Ile Gln Arg Asn Gly Ser His Phe Cys Gly Gly Ser Leu
50 55 60

Ile Ala Glu Gln Trp Val Leu Thr Ala Ala His Cys Phe Arg Asn Thr
65 70 75 80

Ser Glu Thr Ser Leu Tyr Gln Val Leu Leu Gly Ala Arg Gln Leu Val
85 90 95

Gln Pro Gly Pro His Ala Met Tyr Ala Arg Val Arg Gln Val Glu Ser
100 105 110

Asn Pro Leu Tyr Gln Gly Thr Ala Ser Ser Ala Asp Val Ala Leu Val
115 120 125

Glu Leu Glu Ala Pro Val Pro Phe Thr Asn Tyr Ile Leu Pro Val Cys
130 135 140

Leu Pro Asp Pro Ser Val Ile Phe Glu Thr Gly Met Asn Cys Trp Val
145 150 155 160

Thr Gly Trp Gly Ser Pro Ser Glu Glu Asp Leu Leu Pro Glu Pro Arg
165 170 175

Ile Leu Gln Lys Leu Ala Val Pro Ile Ile Asp Thr Pro Lys Cys Asn
180 185 190

Leu Leu Tyr Ser Lys Asp Thr Glu Phe Gly Tyr Gln Pro Lys Thr Ile
 195 200 205

Lys Asn Asp Met Leu Cys Ala Gly Phe Glu Glu Gly Lys Lys Asp Ala
 210 215 220

Cys Lys Gly Asp Ser Gly Gly Pro Leu Val Cys Leu Val Gly Gln Ser
 225 230 235 240

Trp Leu Gln Ala Gly Val Ile Ser Trp Gly Glu Gly Cys Ala Arg Gln
 245 250 255

Asn Arg Pro Gly Val Tyr Ile Arg Val Thr Ala His His Asn Trp Ile
 260 265 270

His Arg Ile Ile Pro Lys Leu Gln Phe Gln Pro Ala Arg Leu Gly Gly
 275 280 285

Gln Lys
 290

<210> 89

<211> 285

<212> PRT

<213> Mus musculus

<400> 89

Met Ala Leu Arg Val Gly Leu Gly Leu Gly Gln Leu Glu Ala Val Thr
 1 5 10 15

Ile Leu Leu Leu Gly Leu Leu Gln Ser Gly Ile Arg Ala Asp Gly
 20 25 30

Thr Glu Ala Ser Cys Gly Ala Val Ile Gln Pro Arg Ile Thr Gly Gly
 35 40 45

Gly Ser Ala Lys Pro Gly Gln Trp Pro Trp Gln Val Ser Ile Thr Tyr
 50 55 60

Asp Gly Asn His Val Cys Gly Gly Ser Leu Val Ser Asn Lys Trp Val
 65 70 75 80

Val Ser Ala Ala His Cys Phe Pro Arg Glu His Ser Arg Glu Ala Tyr
 85 90 95

Glu Val Lys Leu Gly Ala His Gln Leu Asp Ser Tyr Ser Asn Asp Thr
 100 105 110

Val Val His Thr Val Ala Gln Ile Ile Thr His Ser Ser Tyr Arg Glu
 115 120 125

Glu Gly Ser Gln Gly Asp Ile Ala Leu Ile Arg Leu Ser Ser Pro Val
 130 135 140

Thr Phe Ser Arg Tyr Ile Arg Pro Ile Cys Leu Pro Ala Ala Asn Ala
 145 150 155 160

Ser Phe Pro Asn Gly Leu His Cys Thr Val Thr Gly Trp Gly His Val
 165 170 175

Ala Pro Ser Val Ser Leu Gln Thr Pro Arg Pro Leu Gln Gln Leu Glu
 180 185 190

Val Pro Leu Ile Ser Arg Glu Thr Cys Ser Cys Leu Tyr Asn Ile Asn
 195 200 205

Ala Val Pro Glu Glu Pro His Thr Ile Gln Gln Asp Met Leu Cys Ala
 210 215 220

Gly Tyr Val Lys Gly Gly Lys Asp Ala Cys Gln Gly Asp Ser Gly Gly
 225 230 235 240

Pro Leu Ser Cys Pro Met Glu Gly Ile Trp Tyr Leu Ala Gly Ile Val
 245 250 255

Ser Trp Gly Asp Ala Cys Gly Ala Pro Asn Arg Pro Gly Val Tyr Thr
 260 265 270

Leu Thr Ser Thr Tyr Ala Ser Trp Ile His His His Val
 275 280 285

<210> 90

<211> 395

<212> PRT

<213> Homo sapiens

<400> 90

Met Lys Asp Ser Val Lys Leu Val Ile Leu His His Val Asp His Tyr
 1 5 10 15

Phe Pro Thr Cys Lys Cys Ile Met Ala Phe Gly Ile Ser Met Met Trp
 20 25 30

Leu Leu Leu Thr Thr Thr Cys Leu Ile Cys Gly Thr Leu Asn Ala Gly

290 295 300
 Asp Trp Gly Asn Asp Ala Asp Asn Met Lys His Tyr Asn Gln Ser His
 305 310 315 320
 Pro Pro Ile Tyr Asp Leu Thr Ala Met Lys Val Pro Thr Ala Ile Trp
 325 330 335
 Ala Gly Gly His Asp Val Leu Val Thr Pro Gln Asp Val Ala Arg Ile
 340 345 350
 Leu Pro Gln Ile Lys Ser Leu His Tyr Phe Lys Leu Leu Pro Asp Trp
 355 360 365
 Asn His Phe Asp Phe Val Trp Gly Leu Asp Ala Pro Gln Arg Met Tyr
 370 375 380
 Ser Glu Ile Ile Ala Leu Met Lys Ala Tyr Ser
 385 390 395

 <210> 91
 <211> 351
 <212> PRT
 <213> Homo sapiens

 <400> 91
 Met Lys Asp Ser Val Lys Leu Val Ile Leu His His Val Asp His Tyr
 1 5 10 15
 Phe Pro Thr Cys Lys Cys Ile Met Ala Phe Gly Ile Ser Met Met Trp
 20 25 30
 Leu Leu Leu Thr Thr Thr Cys Leu Ile Cys Gly Thr Leu Asn Ala Gly
 35 40 45
 Gly Phe Leu Asp Leu Glu Asn Glu Val Asn Pro Glu Val Trp Met Asn
 50 55 60
 Thr Ser Glu Ile Ile Ile Tyr Asn Gly Tyr Pro Ser Glu Glu Tyr Glu
 65 70 75 80
 Val Thr Thr Glu Asp Gly Tyr Ile Leu Leu Val Asn Arg Ile Pro Tyr
 85 90 95
 Gly Arg Thr His Ala Arg Ser Thr Gly Pro Arg Pro Val Val Tyr Met
 100 105 110

Gln His Ala Leu Phe Ala Asp Asn Ala Tyr Trp Leu Glu Asn Tyr Ala
 115 120 125
 Asn Gly Ser Leu Gly Phe Leu Leu Ala Asp Ala Gly Tyr Asp Val Trp
 130 135 140
 Met Gly Asn Ser Arg Gly Asn Thr Trp Ser Arg Arg His Lys Thr Leu
 145 150 155 160
 Ser Glu Thr Asp Glu Lys Phe Trp Ala Phe Ser Phe Asp Glu Met Ala
 165 170 175
 Lys Tyr Asp Leu Pro Gly Val Ile Asp Phe Ile Val Asn Lys Thr Gly
 180 185 190
 Gln Glu Lys Leu Tyr Phe Ile Gly His Ser Leu Gly Thr Thr Ile Gly
 195 200 205
 Phe Phe Leu Glu Asp Lys Lys Thr Lys Ile Ala Ser Thr Lys Ile Cys
 210 215 220
 Asn Asn Lys Ile Leu Trp Leu Ile Cys Ser Glu Phe Met Ser Leu Trp
 225 230 235 240
 Ala Gly Ser Asn Lys Lys Asn Met Asn Gln Leu Tyr His Ser Asp Glu
 245 250 255
 Phe Arg Ala Tyr Asp Trp Gly Asn Asp Ala Asp Asn Met Lys His Tyr
 260 265 270
 Asn Gln Ser His Pro Pro Ile Tyr Asp Leu Thr Ala Met Lys Val Pro
 275 280 285
 Thr Ala Ile Trp Ala Gly Gly His Asp Val Leu Val Thr Pro Gln Asp
 290 295 300
 Val Ala Arg Ile Leu Pro Gln Ile Lys Ser Leu His Tyr Phe Lys Leu
 305 310 315 320
 Leu Pro Asp Trp Asn His Phe Asp Phe Val Trp Gly Leu Asp Ala Pro
 325 330 335
 Gln Arg Met Tyr Ser Glu Ile Ile Ala Leu Met Lys Ala Tyr Ser
 340 345 350

<210> 92

<211> 399

<212> PRT

<213> Homo sapiens

<400> 92

Met Lys Met Arg Phe Leu Gly Leu Val Val Cys Leu Val Leu Trp Pro
1 5 10 15
Leu His Ser Glu Gly Ser Gly Gly Lys Leu Thr Ala Val Asp Pro Glu
20 25 30
Thr Asn Met Asn Val Ser Glu Ile Ile Ser Tyr Trp Gly Phe Pro Ser
35 40 45
Glu Glu Tyr Leu Val Glu Thr Glu Asp Gly Tyr Ile Leu Cys Leu Asn
50 55 60
Arg Ile Pro His Gly Arg Lys Asn His Ser Asp Lys Gly Pro Lys Pro
65 70 75 80
Val Val Phe Leu Gln His Gly Leu Leu Ala Asp Ser Ser Asn Trp Val
85 90 95
Thr Asn Leu Ala Asn Ser Ser Leu Gly Phe Ile Leu Ala Asp Ala Gly
100 105 110
Phe Asp Val Trp Met Gly Asn Ser Arg Gly Asn Thr Trp Ser Arg Lys
115 120 125
His Lys Thr Leu Ser Val Ser Gln Asp Glu Phe Trp Ala Phe Ser Tyr
130 135 140
Asp Glu Met Ala Lys Tyr Asp Leu Pro Ala Ser Ile Asn Phe Ile Leu
145 150 155 160
Asn Lys Thr Gly Gln Glu Gln Val Tyr Tyr Val Gly His Ser Gln Gly
165 170 175
Thr Thr Ile Gly Phe Ile Ala Phe Ser Gln Ile Pro Glu Leu Ala Lys
180 185 190
Arg Ile Lys Met Phe Phe Ala Leu Gly Pro Val Ala Ser Val Ala Phe
195 200 205
Cys Thr Ser Pro Met Ala Lys Leu Gly Arg Leu Pro Asp His Leu Ile
210 215 220
Lys Asp Leu Phe Gly Asp Lys Glu Phe Leu Pro Gln Ser Ala Phe Leu
225 230 235 240

Lys Trp Leu Gly Thr His Val Cys Thr His Val Ile Leu Lys Glu Leu
 245 250 255

Cys Gly Asn Leu Cys Phe Leu Leu Cys Gly Phe Asn Glu Arg Asn Leu
 260 265 270

Asn Met Ser Arg Val Asp Val Tyr Thr Thr His Ser Pro Ala Gly Thr
 275 280 285

Ser Val Gln Asn Met Leu His Trp Ser Gln Ala Val Lys Phe Gln Lys
 290 295 300

Phe Gln Ala Phe Asp Trp Gly Ser Ser Ala Lys Asn Tyr Phe His Tyr
 305 310 315 320

Asn Gln Ser Tyr Pro Pro Thr Tyr Asn Val Lys Asp Met Leu Val Pro
 325 330 335

Thr Ala Val Trp Ser Gly Gly His Asp Trp Leu Ala Asp Val Tyr Asp
 340 345 350

Val Asn Ile Leu Leu Thr Gln Ile Thr Asn Leu Val Phe His Glu Ser
 355 360 365

Ile Pro Glu Trp Glu His Leu Asp Phe Ile Trp Gly Leu Asp Ala Pro
 370 375 380

Trp Arg Leu Tyr Asn Lys Ile Ile Asn Leu Met Arg Lys Tyr Gln
 385 390 395

<210> 93
 <211> 399
 <212> PRT
 <213> Homo sapiens

<400> 93
 Met Lys Met Arg Phe Leu Gly Leu Val Val Cys Leu Val Leu Trp Thr
 1 5 10 15

Leu His Ser Glu Gly Ser Gly Gly Lys Leu Thr Ala Val Asp Pro Glu
 20 25 30

Thr Asn Met Asn Val Ser Glu Ile Ile Ser Tyr Trp Gly Phe Pro Ser
 35 40 45

Glu Glu Tyr Leu Val Glu Thr Glu Asp Gly Tyr Ile Leu Cys Leu Asn

His Lys Thr Leu Ser Val Ser Gln Asp Glu Phe Trp Ala Phe Ser Tyr
 130 135 140

Asp Glu Met Ala Lys Tyr Asp Leu Pro Ala Ser Ile Asn Phe Ile Leu
 145 150 155 160

Asn Lys Thr Gly Gln Glu Gln Val Tyr Tyr Val Gly His Ser Gln Gly
 165 170 175

Thr Thr Ile Gly Phe Ile Ala Phe Ser Gln Ile Pro Glu Leu Ala Lys
 180 185 190

Arg Ile Lys Met Phe Phe Ala Leu Gly Pro Val Ala Ser Val Ala Phe
 195 200 205

Cys Thr Ser Pro Met Ala Lys Leu Gly Arg Leu Pro Asp His Leu Ile
 210 215 220

Lys Asp Leu Phe Gly Asp Lys Glu Phe Leu Pro Gln Ser Ala Phe Leu
 225 230 235 240

Lys Trp Leu Gly Thr His Val Cys Thr His Val Ile Leu Lys Glu Leu
 245 250 255

Cys Gly Asn Leu Cys Phe Leu Leu Cys Gly Phe Asn Glu Arg Asn Leu
 260 265 270

Asn Met Ser Arg Val Asp Val Tyr Thr Thr His Ser Pro Ala Gly Thr
 275 280 285

Ser Val Gln Asn Met Leu His Trp Ser Gln Ala Val Lys Phe Gln Lys
 290 295 300

Phe Gln Ala Phe Asp Trp Gly Ser Ser Ala Lys Asn Tyr Phe His Tyr
 305 310 315 320

Asn Gln Ser Tyr Pro Pro Thr Tyr Asn Val Lys Asp Met Leu Val Pro
 325 330 335

Thr Ala Val Trp Ser Gly Gly His Asp Trp Leu Ala Asp Val Tyr Asp
 340 345 350

Val Asn Ile Leu Leu Thr Gln Ile Thr Asn Leu Val Phe His Glu Ser
 355 360 365

Ile Pro Glu Trp Glu His Leu Asp Phe Ile Trp Gly Leu Asp Ala Pro
 370 375 380

Trp Arg Leu Tyr Asn Lys Ile Ile Asn Leu Met Arg Lys Tyr Gln
 385 390 395

<210> 95

<211> 217

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: abhydrolase,
 alpha/beta hydrolase fold catalytic domain
 sequence

<400> 95

Phe Asp Val Ile Leu Phe Asp Leu Arg Gly Phe Gly Gln Ser Ser Pro
 1 5 10 15

Ser Asp Leu Ala Glu Tyr Arg Phe Asp Asp Leu Ala Glu Asp Leu Glu
 20 25 30

Ala Leu Leu Asp Ala Leu Gly Leu Asp Lys Val Ile Leu Val Gly His
 35 40 45

Ser Met Gly Gly Ala Ile Ala Ala Ala Tyr Ala Ala Lys Tyr Pro Glu
 50 55 60

Arg Val Lys Ala Leu Val Leu Val Ser Ala Pro His Pro Ala Leu Leu
 65 70 75 80

Ser Ser Arg Leu Phe Pro Arg Asn Leu Phe Gly Leu Leu Leu Ala Asn
 85 90 95

Phe Arg Asn Arg Leu Leu Arg Ser Val Glu Ala Leu Leu Gly Arg Ala
 100 105 110

Leu Lys Gln Phe Phe Leu Leu Gly Arg Pro Leu Val Ser Asp Phe Leu
 115 120 125

Lys Gln Phe Glu Leu Ser Ser Leu Ile Arg Phe Gly Glu Asp Asp Gly
 130 135 140

Gly Asp Gly Leu Leu Trp Val Ala Leu Gly Lys Leu Leu Gln Trp Asp
 145 150 155 160

Val Ser Ala Asp Leu Lys Arg Ile Lys Val Pro Thr Leu Val Ile Trp
 165 170 175

Gly Asp Asp Asp Pro Leu Val Pro Pro Asp Ala Ser Glu Lys Leu Ser
 180 185 190

Ala Leu Phe Pro Asn Ala Glu Val Val Val Ile Asp Asp Ala Gly His
 195 200 205

Leu Ala Gln Leu Glu Lys Pro Glu Glu
 210 215

<210> 96
 <211> 322
 <212> PRT
 <213> Mus musculus

<400> 96
 Met Gly Ile Gln Gly Pro Val Leu Leu Leu Leu Leu Cys Val Met
 1 5 10 15

Leu Gly Lys Pro Gly Ser Arg Glu Glu Ser Gln Ala Ala Asp Leu Lys
 20 25 30

Ser Thr Asp Ile Lys Leu Leu Ser Met Pro Cys Gly Arg Arg Asn Asp
 35 40 45

Thr Arg Ser Arg Ile Val Gly Gly Ile Glu Ser Met Gln Gly Arg Trp
 50 55 60

Pro Trp Gln Ala Ser Leu Arg Leu Lys Lys Ser His Arg Cys Gly Gly
 65 70 75 80

Ser Leu Leu Ser Arg Arg Trp Val Leu Thr Ala Ala His Cys Phe Arg
 85 90 95

Lys Tyr Leu Asp Pro Glu Lys Trp Thr Val Gln Leu Gly Gln Leu Thr
 100 105 110

Ser Lys Pro Ser Tyr Trp Asn Arg Lys Ala Tyr Ser Gly Arg Tyr Arg
 115 120 125

Val Lys Asp Ile Ile Val Asn Ser Glu Asp Lys Leu Lys Ser His Asp
 130 135 140

Leu Ala Leu Leu Arg Leu Ala Ser Ser Val Thr Tyr Asn Lys Asp Ile
 145 150 155 160

Gln Pro Val Cys Val Gln Pro Ser Thr Phe Thr Ser Gln His Gln Pro
 165 170 175

Arg Cys Trp Val Thr Gly Trp Gly Val Leu Gln Glu Asp Leu Lys Pro
180 185 190

Leu Pro Pro Pro Tyr His Leu Arg Glu Val Gln Val Ser Ile Leu Asn
195 200 205

Asn Ser Arg Cys Gln Glu Leu Phe Glu Ile Phe Ser Leu His His Leu
210 215 220

Ile Thr Lys Asp Val Phe Cys Ala Gly Ala Glu Asp Gly Ser Ala Asp
225 230 235 240

Thr Cys Ser Gly Asp Ser Gly Gly Pro Leu Val Cys Asn Met Asp Gly
245 250 255

Leu Trp Tyr Gln Ile Gly Ile Val Ser Trp Gly Ile Gly Cys Gly Arg
260 265 270

Pro Asn Leu Pro Gly Ile Tyr Thr Asn Val Ser His Tyr Tyr Asn Trp
275 280 285

Ile Glu Thr Met Met Ile Leu Asn Gly Ala Val Arg Arg Asp Leu Ala
290 295 300

Leu Pro Leu Leu Ser Ile Thr Leu Leu Gln Ala Pro Trp Leu Leu Arg
305 310 315 320

Pro Thr

<210> 97

<211> 282

<212> PRT

<213> Mus musculus

<400> 97

Met Pro Cys Gly Arg Arg Asn Asp Thr Arg Ser Arg Ile Val Gly Gly
1 5 10 15

Ile Glu Ser Met Gln Gly Arg Trp Pro Trp Gln Ala Ser Leu Arg Leu
20 25 30

Lys Lys Ser His Arg Cys Gly Gly Ser Leu Leu Ser Arg Arg Trp Val
35 40 45

Leu Thr Ala Ala His Cys Phe Arg Lys Tyr Leu Asp Pro Glu Lys Trp

<213> Mus musculus

<400> 98

Met Gly Ala Arg Gly Lys Thr Leu Val Pro Leu Leu Val Val Val Ala
1 5 10 15
Thr Ala Ala Met Ala Leu Gln Ser Thr Tyr Leu Gln Val Asp Pro Glu
20 25 30
Lys Pro Glu Leu Gln Glu Pro Asp Leu Leu Ser Gly Pro Cys Gly His
35 40 45
Arg Thr Ile Pro Ser Arg Ile Val Gly Gly Asp Asp Ala Glu Leu Gly
50 55 60
Arg Trp Pro Trp Gln Gly Ser Leu Arg Val Trp Gly Asn His Leu Cys
65 70 75 80
Gly Ala Thr Leu Leu Asn Arg Arg Trp Val Leu Thr Ala Ala His Cys
85 90 95
Phe Gln Lys Asp Asn Asp Pro Phe Asp Trp Thr Val Gln Phe Gly Glu
100 105 110
Leu Thr Ser Arg Pro Ser Leu Trp Asn Leu Gln Ala Tyr Ser Asn Arg
115 120 125
Tyr Gln Ile Glu Asp Ile Phe Leu Ser Pro Lys Tyr Ser Glu Gln Tyr
130 135 140
Pro Asn Asp Ile Ala Leu Leu Lys Leu Ser Ser Pro Val Thr Tyr Asn
145 150 155 160
Asn Phe Ile Gln Pro Ile Cys Leu Leu Asn Ser Thr Tyr Lys Phe Glu
165 170 175
Asn Arg Thr Asp Cys Trp Val Thr Gly Trp Gly Ala Ile Gly Glu Asp
180 185 190
Glu Ser Leu Pro Ser Pro Asn Thr Leu Gln Glu Val Gln Val Ala Ile
195 200 205
Ile Asn Asn Ser Met Cys Asn His Met Tyr Lys Lys Pro Asp Phe Arg
210 215 220
Thr Asn Ile Trp Gly Asp Met Val Cys Ala Gly Thr Pro Glu Gly Gly
225 230 235 240

Lys Asp Ala Cys Phe Gly Asp Ser Gly Gly Pro Leu Ala Cys Asp Gln
 245 250 255

Asp Thr Val Trp Tyr Gln Val Gly Val Val Ser Trp Gly Ile Gly Cys
 260 265 270

Gly Arg Pro Asn Arg Pro Gly Val Tyr Thr Asn Ile Ser His His Tyr
 275 280 285

Asn Trp Ile Gln Ser Thr Met Ile Arg Asn Gly Leu Leu Arg Pro Asp
 290 295 300

Pro Val Pro Leu Leu Leu Phe Leu Thr Leu Ala Trp Ala Ser Ser Leu
 305 310 315 320

Leu Arg Pro Ala

<210> 99

<211> 296

<212> PRT

<213> Mus musculus

<400> 99

Met Ala Leu Gln Ser Thr Tyr Leu Gln Val Asp Pro Glu Lys Pro Glu
 1 5 10 15

Leu Gln Glu Pro Asp Leu Leu Ser Gly Pro Cys Gly His Arg Thr Ile
 20 25 30

Pro Ser Arg Ile Val Gly Gly Asp Asp Ala Glu Leu Gly Arg Trp Pro
 35 40 45

Trp Gln Gly Ser Leu Arg Val Trp Gly Asn His Leu Cys Gly Ala Thr
 50 55 60

Leu Leu Asn Arg Arg Trp Val Leu Thr Ala Ala His Cys Phe Gln Lys
 65 70 75 80

Asp Asn Asp Pro Phe Asp Trp Thr Val Gln Phe Gly Glu Leu Thr Ser
 85 90 95

Arg Pro Ser Leu Trp Asn Leu Gln Ala Tyr Ser Asn Arg Tyr Gln Ile
 100 105 110

Glu Asp Ile Phe Leu Ser Pro Lys Tyr Ser Glu Gln Tyr Pro Asn Asp
 115 120 125

Ile Ala Leu Leu Lys Leu Ser Ser Pro Val Thr Tyr Asn Asn Phe Ile
 130 135 140

Gln Pro Ile Cys Leu Leu Asn Ser Thr Tyr Lys Phe Glu Asn Arg Thr
 145 150 155 160

Asp Cys Trp Val Thr Gly Trp Gly Ala Ile Gly Glu Asp Glu Ser Leu
 165 170 175

Pro Ser Pro Asn Thr Leu Gln Glu Val Gln Val Ala Ile Ile Asn Asn
 180 185 190

Ser Met Cys Asn His Met Tyr Lys Lys Pro Asp Phe Arg Thr Asn Ile
 195 200 205

Trp Gly Asp Met Val Cys Ala Gly Thr Pro Glu Gly Gly Lys Asp Ala
 210 215 220

Cys Phe Gly Asp Ser Gly Gly Pro Leu Ala Cys Asp Gln Asp Thr Val
 225 230 235 240

Trp Tyr Gln Val Gly Val Val Ser Trp Gly Ile Gly Cys Gly Arg His
 245 250 255

Asn Arg Pro Gly Val Tyr Thr Asn Ile Ser His His Tyr Asn Trp Ile
 260 265 270

Gln Ser Thr Met Ile Arg Asn Gly Leu Leu Arg Pro Asp Pro Val Pro
 275 280 285

Leu Leu Leu Phe Leu Thr Leu Ala
 290 295

<210> 100

<211> 312

<212> PRT

<213> Mus musculus

<400> 100

Met Gly Ala Arg Gly Ala Leu Leu Leu Ala Leu Leu Leu Ala Arg Ala
 1 5 10 15

Gly Leu Arg Lys Pro Glu Ser Gln Glu Ala Ala Pro Leu Ser Gly Pro
 20 25 30

Cys Gly Arg Arg Val Ile Thr Ser Arg Ile Val Gly Gly Glu Asp Ala

35	40	45
Glu Leu Gly Arg Trp Pro Trp Gln Gly Ser Leu Arg Leu Trp Asp Ser		
50	55	60
His Val Cys Gly Val Ser Leu Leu Ser His Arg Trp Ala Leu Thr Ala		
65	70	75
Ala His Cys Phe Glu Thr Asp Leu Ser Asp Pro Ser Gly Trp Met Val		
	85	90
Gln Phe Gly Gln Leu Thr Ser Met Pro Ser Phe Trp Ser Leu Gln Ala		
	100	105
Tyr Tyr Thr Arg Tyr Phe Val Ser Asn Ile Tyr Leu Ser Pro Arg Tyr		
	115	120
Leu Gly Asn Ser Pro Tyr Asp Ile Ala Leu Val Lys Leu Ser Ala Pro		
	130	135
Val Thr Tyr Thr Lys His Ile Gln Pro Ile Cys Leu Gln Ala Ser Thr		
	145	150
Phe Glu Phe Glu Asn Arg Thr Asp Cys Trp Val Thr Gly Trp Gly Tyr		
	165	170
Ile Lys Glu Asp Glu Ala Leu Pro Ser Pro His Thr Leu Gln Glu Val		
	180	185
Gln Val Ala Ile Ile Asn Asn Ser Met Cys Asn His Leu Phe Leu Lys		
	195	200
Tyr Ser Phe Arg Lys Asp Ile Phe Gly Asp Met Val Cys Ala Gly Asn		
	210	215
Ala Gln Gly Gly Lys Asp Ala Cys Phe Gly Asp Ser Gly Gly Pro Leu		
	225	230
Ala Cys Asn Lys Asn Gly Leu Trp Tyr Gln Ile Gly Val Val Ser Trp		
	245	250
Gly Val Gly Cys Gly Arg Pro Asn Arg Pro Gly Val Tyr Thr Asn Ile		
	260	265
Ser His His Phe Glu Trp Ile Gln Lys Leu Met Ala Gln Ser Gly Met		
	275	280
Ser Gln Pro Asp Pro Ser Trp Pro Leu Leu Phe Phe Pro Leu Leu Trp		

290
 295
 300
 Ala Leu Pro Leu Leu Gly Pro Val
 305 310

<210> 101
 <211> 229
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Tryp_SpC,
 Trypsin-like serine protease domain sequence

<400> 101
 Ile Val Gly Gly Ser Glu Ala Asn Ile Gly Ser Phe Pro Trp Gln Val
 1 5 10 15
 Ser Leu Gln Tyr Arg Gly Gly Arg His Phe Cys Gly Gly Ser Leu Ile
 20 25 30
 Ser Pro Arg Trp Val Leu Thr Ala Ala His Cys Val Tyr Gly Ser Ala
 35 40 45
 Pro Ser Ser Ile Arg Val Arg Leu Gly Ser His Asp Leu Ser Ser Gly
 50 55 60
 Glu Glu Thr Gln Thr Val Lys Val Ser Lys Val Ile Val His Pro Asn
 65 70 75 80
 Tyr Asn Pro Ser Thr Tyr Asp Asn Asp Ile Ala Leu Leu Lys Leu Ser
 85 90 95
 Glu Pro Val Thr Leu Ser Asp Thr Val Arg Pro Ile Cys Leu Pro Ser
 100 105 110
 Ser Gly Tyr Asn Val Pro Ala Gly Thr Thr Cys Thr Val Ser Gly Trp
 115 120 125
 Gly Arg Thr Ser Glu Ser Ser Gly Ser Leu Pro Asp Thr Leu Gln Glu
 130 135 140
 Val Asn Val Pro Ile Val Ser Asn Ala Thr Cys Arg Arg Ala Tyr Ser
 145 150 155 160
 Gly Gly Pro Ala Ile Thr Asp Asn Met Leu Cys Ala Gly Gly Leu Glu
 165 170 175

Gly Gly Lys Asp Ala Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys
 180 185 190

Asn Asp Pro Arg Trp Val Leu Val Gly Ile Val Ser Trp Gly Ser Tyr
 195 200 205

Gly Cys Ala Arg Pro Asn Lys Pro Gly Val Tyr Thr Arg Val Ser Ser
 210 215 220

Tyr Leu Asp Trp Ile
 225

<210> 102

<211> 215

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Trypsin domain
 sequence

<400> 102

Gly Gly Arg Glu Ala Gln Ala Gly Ser Phe Pro Trp Gln Val Ser Leu
 1 5 10 15

Gln Val Ser Ser Gly His Phe Cys Gly Gly Ser Leu Ile Ser Glu Asn
 20 25 30

Trp Val Leu Thr Ala Ala His Cys Val Ser Gly Ala Ser Ser Val Arg
 35 40 45

Val Val Leu Gly Glu His Asn Leu Gly Thr Thr Glu Gly Thr Glu Gln
 50 55 60

Lys Phe Asp Val Lys Lys Ile Ile Val His Pro Asn Tyr Asn Pro Asp
 65 70 75 80

Thr Asn Asp Ile Ala Leu Leu Lys Leu Lys Ser Pro Val Thr Leu Gly
 85 90 95

Asp Thr Val Arg Pro Ile Cys Leu Pro Ser Ala Ser Ser Asp Leu Pro
 100 105 110

Val Gly Thr Thr Cys Ser Val Ser Gly Trp Gly Arg Thr Lys Asn Leu
 115 120 125

Gly Thr Ser Asp Thr Leu Gln Glu Val Val Val Pro Ile Val Ser Arg
 130 135 140

Glu Thr Cys Arg Ser Ala Tyr Gly Gly Thr Val Thr Asp Thr Met Ile
 145 150 155 160

Cys Ala Gly Ala Leu Gly Gly Lys Asp Ala Cys Gln Gly Asp Ser Gly
 165 170 175

Gly Pro Leu Val Cys Ser Asp Gly Glu Leu Val Gly Ile Val Ser Trp
 180 185 190

Gly Tyr Gly Cys Ala Val Gly Asn Tyr Pro Gly Val Tyr Thr Arg Val
 195 200 205

Ser Arg Tyr Leu Asp Trp Ile
 210 215

<210> 103
 <211> 525
 <212> PRT
 <213> Mus musculus

<400> 103
 Met Leu Trp Leu Trp Leu Gly Leu Ser Gly Gln Lys Leu Leu Leu Trp
 1 5 10 15

Gly Ala Ala Ser Ala Val Ser Leu Ala Gly Ala Thr Ile Leu Ile Ser
 20 25 30

Ile Phe Pro Met Leu Val Ser Tyr Ala Arg Lys Trp Gln Gln Met Arg
 35 40 45

Ser Ile Pro Ser Val Ala Arg Ala Tyr Pro Leu Val Gly His Ala Leu
 50 55 60

Tyr Met Lys Pro Asn Asn Ala Glu Phe Phe Gln Gln Leu Ile Tyr Tyr
 65 70 75 80

Thr Glu Glu Phe Arg His Leu Pro Ile Ile Lys Leu Trp Ile Gly Pro
 85 90 95

Val Pro Leu Val Ala Leu Tyr Lys Ala Glu Asn Val Glu Val Ile Leu
 100 105 110

Thr Ser Ser Lys Gln Ile Asp Lys Ser Phe Leu Tyr Lys Phe Leu Gln
 115 120 125

Pro Trp Leu Gly Leu Gly Leu Leu Thr Ser Thr Gly Ser Lys Trp Arg
 130 135 140

Thr Arg Arg Lys Met Leu Thr Pro Thr Phe His Phe Thr Ile Leu Glu
 145 150 155 160

Asn Phe Leu Asp Val Met Asn Glu Gln Ala Asn Ile Leu Val Asn Lys
 165 170 175

Leu Glu Lys His Val Asn Gln Glu Ala Phe Asn Cys Phe Phe Tyr Ile
 180 185 190

Thr Leu Cys Ala Leu Asp Ile Ile Cys Glu Thr Ala Met Gly Lys Asn
 195 200 205

Ile Gly Ala Gln Ser Asn Asn Asp Ser Glu Tyr Val Arg Thr Val Tyr
 210 215 220

Arg Met Ser Asp Met Ile Tyr Arg Arg Met Lys Met Pro Trp Leu Trp
 225 230 235 240

Phe Asp Leu Trp Tyr Leu Val Phe Lys Glu Gly Arg Asp His Lys Arg
 245 250 255

Gly Leu Lys Cys Leu His Thr Phe Thr Asn Asn Val Ile Ala Glu Arg
 260 265 270

Val Lys Glu Arg Lys Ala Glu Glu Asp Trp Thr Gly Ala Gly Arg Gly
 275 280 285

Pro Ile Pro Ser Lys Asn Lys Arg Lys Ala Phe Leu Asp Leu Leu Leu
 290 295 300

Ser Val Thr Asp Glu Glu Gly Asn Arg Leu Ser Gln Glu Asp Ile Arg
 305 310 315 320

Glu Glu Val Asp Thr Phe Met Phe Glu Gly His Asp Thr Thr Ala Ala
 325 330 335

Ala Ile Asn Trp Ser Leu Tyr Leu Leu Gly Thr Asn Pro Glu Val Gln
 340 345 350

Arg Lys Val Asp Gln Glu Leu Asp Glu Val Phe Gly Arg Ser His Arg
 355 360 365

Pro Val Thr Leu Glu Asp Leu Lys Lys Leu Lys Tyr Leu Asp Cys Val
 370 375 380

Ile Lys Glu Thr Leu Arg Val Phe Pro Ser Val Pro Leu Phe Ala Arg
385 390 395 400

Ser Leu Ser Glu Asp Cys Glu Val Gly Gly Tyr Lys Val Thr Lys Gly
405 410 415

Thr Glu Ala Ile Ile Ile Pro Tyr Ala Leu His Arg Asp Pro Arg Tyr
420 425 430

Phe Pro Asp Pro Glu Glu Phe Arg Pro Glu Arg Phe Phe Pro Glu Asn
435 440 445

Ser Gln Gly Arg His Pro Tyr Ala Tyr Val Pro Phe Ser Ala Gly Pro
450 455 460

Arg Asn Cys Ile Gly Gln Lys Phe Ala Val Met Glu Glu Lys Thr Ile
465 470 475 480

Leu Ala Cys Ile Leu Arg Gln Phe Trp Val Glu Ser Asn Gln Lys Arg
485 490 495

Glu Glu Leu Gly Leu Ala Gly Asp Leu Ile Leu Arg Pro Asn Asn Gly
500 505 510

Ile Trp Ile Lys Leu Lys Arg Arg His Glu Asp Asp Pro
515 520 525

<210> 104

<211> 511

<212> PRT

<213> Caenorhabditis elegans

<400> 104

Met Gly Val Ile Ile Pro Ala Val Leu Leu Ala Ser Ala Thr Ile Ile
1 5 10 15

Ala Trp Leu Leu Tyr Lys His Leu Arg Met Arg Gln Ala Leu Lys His
20 25 30

Leu Asn Gln Pro Arg Ser Tyr Pro Ile Val Gly His Gly Leu Val Thr
35 40 45

Lys Pro Asp Pro Glu Gly Phe Met Asn Gln Val Ile Gly Met Gly Tyr
50 55 60

Leu Tyr Pro Asp Pro Arg Met Cys Leu Leu Trp Ile Gly Pro Phe Pro

325 330 335
 Val Gln Arg Lys Val Gln Ala Glu Leu Asp Glu Val Met Gly Asp Asp
 340 345 350
 Glu Asp Val Thr Ile Glu His Leu Ser Arg Met Lys Tyr Leu Glu Cys
 355 360 365
 Ala Leu Lys Glu Ala Leu Arg Leu Phe Pro Ser Val Pro Ile Ile Thr
 370 375 380
 Arg Glu Leu Ser Asp Asp Gln Val Ile Gly Gly Val Asn Ile Pro Lys
 385 390 395 400
 Gly Val Thr Phe Leu Leu Asn Leu Tyr Leu Val His Arg Asp Pro Ser
 405 410 415
 Gln Trp Lys Asp Pro Asp Val Phe Asp Pro Asp Arg Phe Leu Pro Glu
 420 425 430
 Asn Ser Ile Ala Arg Lys Ser Phe Ala Phe Ile Pro Phe Ser Ala Gly
 435 440 445
 Ser Arg Asn Cys Ile Gly Gln Arg Phe Ala Leu Met Glu Glu Lys Val
 450 455 460
 Ile Met Ala His Leu Leu Arg Asn Phe Asn Val Lys Ala Val Glu Leu
 465 470 475 480
 Met His Glu Val Arg Pro Lys Met Glu Ile Ile Val Arg Pro Val Thr
 485 490 495
 Pro Ile His Met Lys Leu Thr Arg Arg Arg Pro Ile Val Ser Pro
 500 505 510

 <210> 105
 <211> 467
 <212> PRT
 <213> Caenorhabditis elegans

 <400> 105
 Met Gly Val Ile Ile Pro Ala Val Leu Leu Ala Met Ala Thr Val Ile
 1 5 10 15
 Ala Trp Leu Leu Tyr Lys His Leu Arg Met Arg Gln Val Leu Lys His
 20 25 30

Leu Asn Gln Pro Arg Ser Tyr Pro Ile Val Gly His Gly Leu Ile Thr
 35 40 45
 Lys Pro Asp Pro Glu Gly Phe Met Asn Gln Val Ile Gly Met Gly Tyr
 50 55 60
 Leu Tyr Pro Asp Pro Arg Met Cys Leu Leu Trp Ile Gly Pro Phe Pro
 65 70 75 80
 Cys Leu Met Leu Tyr Ser Ala Asp Leu Val Glu Pro Ile Phe Ser Ser
 85 90 95
 Thr Lys His Leu Asn Lys Gly Phe Ala Tyr Val Leu Leu Glu Pro Trp
 100 105 110
 Leu Gly Ile Ser Ile Leu Thr Ser Gln Lys Glu Gln Trp Arg Pro Lys
 115 120 125
 Arg Lys Leu Leu Thr Pro Thr Phe His Tyr Asp Ile Leu Lys Asp Phe
 130 135 140
 Leu Pro Ile Phe Asn Glu Gln Ser Lys Ile Leu Val Gln Lys Leu Cys
 145 150 155 160
 Cys Leu Gly Ala Asp Glu Glu Val Asp Val Leu Ser Val Ile Thr Leu
 165 170 175
 Cys Thr Leu Asp Ile Ile Cys Glu Thr Ser Met Gly Lys Ala Ile Gly
 180 185 190
 Ala Gln Leu Ala Glu Asn Asn Glu Tyr Val Trp Ala Val His Thr Ile
 195 200 205
 Asn Lys Leu Ile Ser Lys Arg Thr Asn Asn Pro Leu Ile Thr Glu Asp
 210 215 220
 Gly Arg Thr His Glu Lys Cys Leu Arg Ile Leu His Asp Phe Thr Lys
 225 230 235 240
 Lys Val Ile Val Glu Arg Lys Glu Ala Leu Gln Glu Asn Asp Tyr Lys
 245 250 255
 Met Glu Gly Arg Leu Ala Phe Leu Asp Leu Leu Leu Glu Met Val Lys
 260 265 270
 Ser Gly Gln Met Asp Glu Thr Asp Val Gln Ala Glu Val Asp Thr Phe
 275 280 285

Met Phe Glu Gly His Asp Thr Thr Ser Thr Gly Leu Met Trp Ala Ile
 290 295 300

His Leu Leu Gly Asn His Pro Glu Val Gln Arg Lys Val Gln Ala Glu
 305 310 315 320

Leu Asp Glu Val Met Gly Asp Asp Glu Asp Val Thr Ile Glu His Leu
 325 330 335

Ser Arg Met Lys Tyr Leu Glu Cys Ala Leu Lys Glu Ala Leu Arg Leu
 340 345 350

Phe Pro Ser Val Pro Ile Ile Thr Arg Glu Leu Ser Asp Asp Gln Val
 355 360 365

Ile Gly Gly Val Asn Ile Pro Lys Gly Val Thr Phe Leu Leu Asn Leu
 370 375 380

Tyr Leu Val His Arg Asp Pro Ala Gln Trp Lys Asp Pro Asp Val Phe
 385 390 395 400

Asp Pro Asp Arg Phe Leu Pro Glu Asn Ser Ile Gly Arg Lys Ser Phe
 405 410 415

Ala Phe Ile Pro Phe Ser Ala Gly Ser Arg Asn Cys Ile Gly Gln Arg
 420 425 430

Phe Ala Leu Met Glu Glu Lys Val Ile Met Ala His Leu Leu Arg Asn
 435 440 445

Phe Asn Ile Lys Ala Val Glu Leu Met His Glu Val Arg Ile Gly Asn
 450 455 460

Thr Ala Asp
 465

<210> 106

<211> 278

<212> PRT

<213> Caenorhabditis elegans

<400> 106

Met Gly Val Ile Ile Pro Ala Val Leu Leu Ala Ser Ala Thr Val Ile
 1 5 10 15

Ala Trp Leu Ile Tyr Lys His Leu Arg Met Arg Gln Val Leu Lys His
 20 25 30

Leu Asn Gln Pro Arg Ser Tyr Pro Ile Val Gly His Gly Leu Ile Thr
 35 40 45
 Lys Pro Asp Pro Glu Gly Phe Met Asn Gln Val Ile Gly Met Gly Tyr
 50 55 60
 Leu Tyr Pro Asp Pro Arg Met Cys Leu Leu Trp Ile Gly Pro Phe Pro
 65 70 75 80
 Cys Leu Met Leu Tyr Ser Ala Asp Leu Val Glu Pro Ile Phe Ser Ser
 85 90 95
 Thr Lys His Leu Asn Lys Gly Phe Ala Tyr Val Leu Leu Glu Pro Trp
 100 105 110
 Leu Gly Ile Ser Ile Leu Thr Ser Gln Lys Glu Gln Trp Arg Pro Lys
 115 120 125
 Arg Lys Leu Leu Thr Pro Thr Phe His Tyr Asp Ile Leu Lys Asp Phe
 130 135 140
 Leu Pro Ile Phe Asn Glu Gln Ser Lys Ile Leu Ile Gln Lys Leu Cys
 145 150 155 160
 Cys Leu Gly Val Ala Asp Glu Glu Val Asp Val Leu Ser Val Ile Thr
 165 170 175
 Leu Cys Thr Leu Asp Ile Ile Cys Glu Thr Ser Met Gly Lys Ala Ile
 180 185 190
 Gly Ala Gln Leu Ala Glu Asn Asn Glu Tyr Val Trp Ala Val His Thr
 195 200 205
 Ile Asn Lys Leu Ile Ser Lys Arg Thr Asn Asn Pro Leu Met Trp Asn
 210 215 220
 Ser Phe Ile Tyr Asn Leu Thr Glu Asp Gly Arg Thr His Glu Lys Cys
 225 230 235 240
 Leu His Ile Leu His Asp Phe Thr Lys Lys Val Arg Pro Lys Met Glu
 245 250 255
 Ile Ile Val Arg Pro Val Thr Pro Ile His Met Lys Leu Thr Arg Arg
 260 265 270
 Arg Pro Ile Val Ser Pro
 275

210 215 220
 Thr Phe Arg Leu Ser Thr Leu Gly Arg Glu Gln Gln Lys Asn Leu Ala
 225 230 235 240
 Ile Leu His Ser Phe Thr Arg Ser Val Ile Arg Ser Arg Lys Gln Glu
 245 250 255
 Leu Leu Val His Leu Asn Asn Gln Ser Gly Glu Gly Val Gln Asn Glu
 260 265 270
 Leu Gly Leu Lys Arg Arg His Ala Phe Leu Asp Leu Met Leu Gln Ala
 275 280 285
 Ser Gln Asp Gly Ala Ser Leu Thr Asp Glu Glu Ile Arg Glu Glu Val
 290 295 300
 Asp Thr Phe Met Phe Glu Gly His Asp Thr Thr Thr Ser Ala Leu Ser
 305 310 315 320
 Phe Thr Met Trp Cys Leu Ala Lys Tyr Gln Asp Val Gln Glu Lys Ala
 325 330 335
 Val Val Glu Leu Lys Gln Ile Phe Gly Asp Ser Thr Arg Asp Ala Thr
 340 345 350
 Phe Arg Asp Leu Gln Glu Met Lys Tyr Leu Glu Gln Val Ile Lys Glu
 355 360 365
 Thr Leu Arg Leu Tyr Pro Ser Val Asn Cys Phe Gly Arg Gln Leu Thr
 370 375 380
 Glu Asn Phe Thr Val Gly Asp Tyr Val Asn Pro Ala Gly Ala Asn Val
 385 390 395 400
 Trp Ile Tyr Pro Tyr His Leu His Arg Arg Pro Glu Tyr Phe Pro Asp
 405 410 415
 Pro Glu Arg Phe Asp Pro Asp Arg Phe Leu Pro Glu Asn Cys Val Gly
 420 425 430
 Arg His Pro Tyr Cys Tyr Val Pro Phe Ser Ala Gly Pro Arg Asn Cys
 435 440 445
 Ile Gly Gln Lys Phe Ala Ile Leu Glu Leu Lys Ser Thr Ile Ser Gln
 450 455 460
 Val Leu Arg Ser Phe Lys Val Ile Glu Ser Asp Cys Asn Gly Asn Ile

Asp Val Lys Gly Ala Thr Arg Pro Ser Ser Leu Thr Ala Ala Met Ser
 180 185 190

Val Cys His Gly Glu Glu Ala Val Cys Ser Ala Gly Ala Thr Pro Ser
 195 200 205

Met Gly Leu Ala Asn Ile Ser Val Leu Phe Gly Phe Ile Asn Phe Phe
 210 215 220

Leu Trp Ala Gly Asn Cys Trp Phe Val Phe Lys Glu Thr Pro Trp His
 225 230 235 240

Gly Gln Gly Gln Asp Gln Gly Gln Gly Pro Ser Gln Glu Ser Ala Ala
 245 250 255

Glu Gln Gly Ala Val Glu Lys Gln
 260

<210> 109

<211> 264

<212> PRT

<213> Mus musculus

<400> 109

Met Ser Ser Thr Glu Ser Pro Gly Arg Thr Ser Asp Lys Ser Pro Arg
 1 5 10 15

Gln Gln Val Asp Arg Leu Leu Leu Gly Leu Arg Trp Gln Arg Leu Glu
 20 25 30

Glu Pro Leu Gly Phe Ile Lys Val Leu Gln Trp Leu Phe Ala Ile Phe
 35 40 45

Ala Phe Gly Ser Cys Gly Ser Tyr Ser Gly Glu Thr Gly Ala Leu Val
 50 55 60

Leu Cys Asn Asn Glu Ala Lys Asp Val Ser Ser Ile Ile Val Leu Phe
 65 70 75 80

Gly Tyr Pro Phe Arg Leu Tyr Gln Val Gln Tyr Glu Met Pro Leu Cys
 85 90 95

Asp Gln Asp Ser Thr Ser Lys Thr Met Asn Leu Met Gly Asp Phe Ser
 100 105 110

Ala Pro Ala Glu Phe Phe Val Thr Leu Gly Ile Phe Ser Phe Phe Tyr
 115 120 125

Thr Met Ala Ala Leu Val Ile Tyr Leu Arg Phe His Lys Leu Tyr Thr
 130 135 140

Glu Asn Lys Arg Phe Pro Leu Val Asp Phe Cys Val Thr Val Ser Phe
 145 150 155 160

Thr Phe Phe Trp Leu Val Ala Ala Ala Ala Trp Gly Lys Gly Leu Thr
 165 170 175

Asp Val Lys Gly Ala Thr Arg Pro Ser Ser Leu Thr Ala Ala Met Ser
 180 185 190

Val Cys His Gly Glu Glu Ala Val Cys Ser Ala Gly Ala Thr Pro Ser
 195 200 205

Met Gly Leu Ala Asn Leu Ser Val Leu Phe Gly Phe Ile Asn Phe Phe
 210 215 220

Leu Trp Ala Gly Asn Cys Trp Phe Val Phe Lys Glu Thr Pro Trp His
 225 230 235 240

Gly Gln Gly Gln Asp Gln Gly Gln Gly Pro Ser Gln Glu Ser Ala Ala
 245 250 255

Glu Gln Gly Ala Val Glu Lys Gln
 260

<210> 110

<211> 268

<212> PRT

<213> Gallus gallus

<400> 110

Met Cys Met Val Ile Phe Ala Pro Leu Phe Ala Ile Phe Ala Phe Ala
 1 5 10 15

Thr Cys Gly Gly Tyr Ser Gly Gly Leu Arg Leu Ser Val Asp Cys Ala
 20 25 30

Asn Lys Ser Glu Ser Asp Leu Asn Ile Asp Ile Ala Phe Ala Tyr Pro
 35 40 45

Phe Arg Leu His Gln Val Asn Phe Asp Ala Pro Thr Cys Glu Gly Lys
 50 55 60

Arg Arg Glu Thr Leu Ser Leu Ile Gly Asp Phe Ser Ser Ser Ala Glu

Lys Glu Pro Leu Ala Phe Leu Arg Ala Leu Glu Leu Leu Phe Ala Met
 20 25 30

Phe Ala Phe Ala Thr Cys Gly Gly Tyr Ser Gly Gly Leu Arg Leu Ser
 35 40 45

Val Asp Cys Val Asn Lys Thr Glu Ser Asn Leu Ser Ile Asp Ile Ala
 50 55 60

Phe Ala Tyr Pro Phe Arg Leu Gln Gln Val Thr Phe Glu Val Pro Thr
 65 70 75 80

Cys Glu Gly Lys Glu Gln Gln Lys Leu Ala Leu Val Gly Asp Ser Ser
 85 90 95

Ser Ser Ala Glu Phe Phe Val Thr Val Ala Val Phe Ala Phe Leu Tyr
 100 105 110

Ser Leu Ala Ala Thr Val Val Tyr Ile Phe Phe Gln Asn Lys Tyr Arg
 115 120 125

Glu Asn Asn Arg Gly Pro Leu Ile Asp Phe Ile Val Thr Val Val Phe
 130 135 140

Ser Phe Leu Trp Leu Val Gly Ser Ser Ala Trp Ala Lys Gly Leu Ser
 145 150 155 160

Asp Val Lys Val Ala Thr Asp Pro Lys Glu Val Leu Leu Leu Met Ser
 165 170 175

Ala Cys Lys Gln Pro Ser Asn Lys Cys Met Ala Val His Ser Pro Val
 180 185 190

Met Ser Ser Leu Asn Thr Ser Val Val Phe Gly Phe Leu Asn Phe Ile
 195 200 205

Leu Trp Ala Gly Asn Ile Trp Phe Val Phe Lys Glu Thr Gly Trp His
 210 215 220

Ser Ser Gly Gln Arg Tyr Leu Ser Asp Pro Met Glu Lys His Ser Ser
 225 230 235 240

Ser Tyr Asn Gln Gly Arg Tyr Asn Gln Glu Ser Tyr Gly Ser Ser Gly
 245 250 255

Gly Tyr Ser Gln Gln Ala Asn Leu Gly Pro Thr Ser Asp Glu Phe Gly
 260 265 270

Gln Gln Pro Ser Gly Pro Thr Ser Phe Asn Asn Gln Ile
 275 280 285

<210> 112
 <211> 265
 <212> PRT
 <213> Rattus norvegicus

<400> 112
 Met Cys Met Val Ile Phe Ala Pro Leu Phe Ala Ile Phe Ala Phe Ala
 1 5 10 15

Thr Cys Gly Gly Tyr Ser Gly Gly Leu Arg Leu Ser Val Asp Cys Val
 20 25 30

Asn Lys Thr Glu Ser Asn Leu Ser Ile Asp Ile Ala Phe Ala Tyr Pro
 35 40 45

Phe Arg Leu His Gln Val Thr Phe Glu Val Pro Thr Cys Glu Gly Lys
 50 55 60

Glu Arg Gln Lys Leu Ala Leu Val Gly Asp Ser Ser Ser Ser Ala Glu
 65 70 75 80

Phe Phe Val Thr Val Ala Val Phe Ala Phe Leu Tyr Ser Leu Ala Ala
 85 90 95

Thr Val Val Tyr Ile Phe Phe Gln Asn Lys Tyr Arg Glu Asn Asn Arg
 100 105 110

Gly Pro Leu Ile Asp Phe Ile Val Thr Val Val Phe Ser Phe Leu Trp
 115 120 125

Leu Val Gly Ser Ser Ala Trp Ala Lys Gly Leu Ser Asp Val Lys Val
 130 135 140

Ala Thr Asp Pro Lys Glu Val Leu Leu Leu Met Ser Ala Cys Lys Gln
 145 150 155 160

Pro Ser Asn Lys Cys Met Ala Val His Ser Pro Val Met Ser Ser Leu
 165 170 175

Asn Thr Ser Val Val Phe Gly Phe Leu Asn Phe Ile Leu Trp Ala Gly
 180 185 190

Asn Ile Trp Phe Val Phe Lys Glu Thr Gly Trp His Ser Ser Gly Gln
 195 200 205

Arg Tyr Leu Ser Asp Pro Met Glu Lys His Ser Ser Ser Tyr Asn Gln
210 215 220

Gly Gly Tyr Asn Gln Asp Ser Tyr Gly Ser Ser Gly Gly Tyr Ser Gln
225 230 235 240

Gln Ala Ser Leu Gly Pro Thr Ser Asp Glu Phe Gly Gln Gln Pro Ser
245 250 255

Gly Pro Thr Ser Phe Asn Asn Gln Ile
260 265

<210> 113

<211> 703

<212> PRT

<213> Mus musculus

<400> 113

Met Ala Ala Leu Ala Ala Gly Ile Ser Lys Gln Arg Ala Ala Ala Gln
1 5 10 15

Gly Leu Gly Ser Asn Gln Asn Ala Val Lys Tyr Leu Gly Gln Asp Phe
20 25 30

Glu Thr Leu Arg Lys Gln Cys Leu Asn Ser Gly Val Leu Phe Lys Asp
35 40 45

Pro Glu Phe Pro Ala Cys Pro Ser Ala Leu Gly Tyr Arg Asp Leu Gly
50 55 60

Pro Gly Ser Ala Glu Thr Gln Gly Ile Ile Trp Lys Arg Pro Thr Glu
65 70 75 80

Leu Cys Ser Asn Pro Gln Phe Ile Val Gly Gly Ala Thr Arg Thr Asp
85 90 95

Ile Arg Gln Gly Gly Leu Gly Asp Cys Trp Leu Leu Ala Ala Ile Ala
100 105 110

Ser Leu Thr Leu Asn Glu Lys Leu Leu Tyr Arg Val Val Pro Arg Asp
115 120 125

Gln Ser Phe Gln Lys Asn Tyr Ala Gly Ile Phe His Phe Gln Phe Trp
130 135 140

Gln Tyr Gly Glu Trp Val Glu Val Val Ile Asp Asp Arg Leu Pro Thr

405 410 415
 Asn Arg Arg Arg Gln Arg Arg Ile Gly Gln Gly Met Leu Ser Ile Gly
 420 425 430
 Tyr Ala Val Tyr Gln Ile Pro Lys Glu Leu Glu Asn His Thr Asp Glu
 435 440 445
 His Leu Gly Arg Asp Phe Phe Gln Gly Arg Gln Pro Ser Thr Cys Ser
 450 455 460
 Ser Thr Tyr Met Asn Leu Arg Glu Val Ser Ser Arg Val Gln Leu Pro
 465 470 475 480
 Pro Gly Gln Tyr Leu Val Val Pro Ser Thr Phe Glu Pro Phe Lys Asp
 485 490 495
 Gly Asp Phe Cys Leu Arg Val Phe Ser Glu Lys Lys Ala Gln Ala Leu
 500 505 510
 Glu Ile Gly Asp Ala Val Pro Gly Asp Pro His Glu Pro His Pro Arg
 515 520 525
 Asp Met Asp Gly Glu Asp Glu His Phe Trp Ser Leu Ser Glu Glu Phe
 530 535 540
 Ala Asp Lys Asp Ser Glu Ile Ser Ala His Gln Leu Lys Arg Val Leu
 545 550 555 560
 Asn Gly Leu Leu Ser Lys Arg Thr Asp Met Lys Phe Asp Gly Phe Asn
 565 570 575
 Ile Asn Thr Cys Arg Glu Met Ile Ser Leu Leu Asp Gly Asp Gly Thr
 580 585 590
 Gly Ser Leu Arg Pro Val Glu Phe Lys Thr Leu Trp Leu Lys Ile Cys
 595 600 605
 Lys Tyr Leu Glu Ile Tyr Gln Glu Met Asp His Ser Arg Ala Gly Thr
 610 615 620
 Ile Asp Ala His Glu Met Arg Thr Ala Leu Lys Lys Ala Gly Phe Thr
 625 630 635 640
 Leu Asn Asn Gln Val Gln Gln Thr Ile Ala Thr Arg Tyr Ala Cys Ser
 645 650 655
 Lys Leu Gly Val Asp Phe Asp Gly Phe Val Ala Cys Met Ile Arg Leu

Trp Ser Ala Leu Leu Glu Lys Ala Tyr Ala Lys Leu Asn Gly Ser Tyr
 180 185 190

Glu Ala Leu Thr Gly Gly Ser Thr Ile Glu Gly Phe Glu Asp Phe Thr
 195 200 205

Gly Gly Ile Ala Glu Val Tyr Glu Leu Lys Lys Ala Pro Pro Asn Leu
 210 215 220

Phe Gln Ile Ile Gln Lys Ala Leu Lys Ala Glu Ser Leu Leu Gly Cys
 225 230 235 240

Ser Ile Asp Ile Thr Asn Ala Tyr Asp Thr Glu Ala Ile Thr Ser Arg
 245 250 255

Lys Leu Val Lys Gly His Ala Tyr Ser Val Thr Gly Ala Glu Glu Val
 260 265 270

Leu Tyr Arg Gly Arg Gln Glu Lys Leu Ile Arg Val Arg Asn Pro Trp
 275 280 285

Gly Glu Val Glu Trp Thr Gly Pro Trp Ser Asp Glu Ala Pro Glu Trp
 290 295 300

Asn Tyr Val Asp Pro Lys Val Lys Ala Val Leu Asp Lys Lys Ser Glu
 305 310 315 320

Asp Gly Glu Phe Trp Met Ala Phe Ser Asp Phe Leu Arg Glu Tyr Ser
 325 330 335

Arg Leu Glu Ile Cys Asn Leu Ser Pro Asp Thr Leu Thr Ser Asn His
 340 345 350

Gln His Lys Trp Asn Ile Thr Leu Tyr Thr Gly Ser Trp Ala Arg Gly
 355 360 365

Ser Thr Ala Gly Gly Cys Gln Asn Tyr Pro Ala Thr Phe Trp Thr Asn
 370 375 380

Pro Gln Phe Arg Ile Lys Leu Asp Glu Pro Asp Asp Asp His Gln Gly
 385 390 395 400

Thr Asn Asn Glu Pro Cys Cys Thr Val Ile Val Gly Leu Met Gln Lys
 405 410 415

Asn Arg Arg Arg Lys Lys Lys Met Gly Glu Asp Leu Leu Ser Ile Gly
 420 425 430

Tyr Ser Leu Phe Lys Ile Pro Asp Gln Leu Gln Asp His Thr Asp Ala
 435 440 445
 His Leu Gly Arg Asp Phe Leu Gln Lys Thr Pro Thr Ala Ala Arg Ser
 450 455 460
 Asp Thr Tyr Ile Asn Val Arg Glu Val Ser Asn Arg Phe His Leu Pro
 465 470 475 480
 Val Gly Asp Tyr Leu Ile Val Pro Ser Thr Phe Glu Pro Phe Lys Asn
 485 490 495
 Gly Asp Phe Cys Leu Arg Val Phe Ser Glu Lys Glu Ala Lys Ser Leu
 500 505 510
 Glu Val Gly Asp Val Val Ile Ala Lys Pro Tyr Glu Pro Gln Ile Ser
 515 520 525
 Asn Lys Asp Val Pro Asp Asp Phe Lys Asn Ile Phe Asp Lys Leu Ala
 530 535 540
 Gly Asp Lys Glu Glu Val Asp Ala Arg Glu Leu Gln Thr Ile Leu Asn
 545 550 555 560
 Lys Leu Ile Ser Lys Arg Pro Asp Leu Arg Ser Asn Gly Phe Thr Leu
 565 570 575
 Asn Thr Cys Arg Glu Met Ile Ser Leu Gln Asp Met Asp Gly Thr Ala
 580 585 590
 Thr Leu Ser Leu Leu Glu Phe Arg Ile Leu Trp Met Lys Ile Gln Lys
 595 600 605
 Tyr Leu Ala Ile Tyr Leu Lys Ala Asp Ser Asp Arg Ser Gly Ile Met
 610 615 620
 Asp Ser His Glu Leu Arg Thr Ala Leu Gln Glu Ala Gly Phe Thr Leu
 625 630 635 640
 Asn Asn Lys Ile His Glu Ser Ile Val Gln Arg Tyr Ala Ser Asn Asp
 645 650 655
 Leu Ala Leu Asn Phe Asp Gly Phe Ile Ala Cys Met Met Arg Leu Glu
 660 665 670
 Thr Leu Phe Lys Met Phe Gln Met Leu Asp Lys Ser Lys Arg Gly Val
 675 680 685

Val Glu Leu Ser Leu Gln Glu Trp Leu Cys Ala Thr Leu Val
690 695 700

<210> 115
<211> 703
<212> PRT
<213> Rattus norvegicus

<400> 115
Met Ala Ala Leu Ala Ala Gly Val Ser Lys Gln Arg Ala Val Ala Glu
1 5 10 15

Gly Leu Gly Ser Asn Gln Asn Ala Val Lys Tyr Leu Gly Gln Asp Phe
20 25 30

Glu Thr Leu Arg Lys Gln Cys Leu Asn Ser Gly Val Leu Phe Lys Asp
35 40 45

Pro Glu Phe Pro Ala Cys Pro Ser Ala Leu Gly Tyr Lys Asp Leu Gly
50 55 60

Pro Gly Ser Pro Asp Thr Gln Gly Ile Val Trp Lys Arg Pro Thr Glu
65 70 75 80

Leu Cys Pro Asn Pro Gln Phe Ile Val Gly Gly Ala Thr Arg Thr Asp
85 90 95

Ile Arg Gln Gly Gly Leu Gly Asp Cys Trp Leu Leu Ala Ala Ile Ala
100 105 110

Ser Leu Thr Leu Asn Glu Lys Leu Leu Tyr Arg Val Leu Pro Arg Asp
115 120 125

Gln Ser Phe Gln Lys Asp Tyr Ala Gly Ile Phe His Phe Gln Phe Trp
130 135 140

Gln Tyr Gly Glu Trp Val Glu Val Val Ile Asp Asp Arg Leu Pro Thr
145 150 155 160

Lys Asn Gly Gln Leu Leu Phe Leu His Ser Glu Glu Gly Asn Glu Phe
165 170 175

Trp Ser Ala Leu Leu Glu Lys Ala Tyr Ala Lys Leu Asn Gly Ser Tyr
180 185 190

Glu Ala Leu Val Gly Gly Ser Thr Ile Glu Gly Phe Glu Asp Phe Thr
195 200 205

Gly Gly Ile Ser Glu Phe Tyr Asp Leu Lys Lys Pro Pro Glu Asn Leu
 210 215 220

Tyr Tyr Ile Ile Gln Lys Ala Leu Arg Lys Gly Ser Leu Leu Gly Cys
 225 230 235 240

Ser Ile Asp Val Ser Thr Ala Ala Glu Ala Glu Ala Thr Thr Arg Gln
 245 250 255

Lys Leu Val Lys Gly His Ala Tyr Ser Val Thr Gly Val Glu Glu Val
 260 265 270

Asn Phe His Gly Arg Pro Glu Lys Leu Ile Arg Leu Arg Asn Pro Trp
 275 280 285

Gly Glu Val Glu Trp Ser Gly Ala Trp Ser Asp Asn Ala Pro Glu Trp
 290 295 300

Asn Tyr Ile Asp Pro Arg Arg Lys Glu Glu Leu Asp Lys Lys Ala Glu
 305 310 315 320

Asp Gly Glu Phe Trp Met Ser Phe Ser Asp Phe Leu Lys Gln Tyr Ser
 325 330 335

Arg Leu Glu Ile Cys Asn Leu Ser Pro Asp Ser Leu Ser Ser Glu Glu
 340 345 350

Ile His Lys Trp Asn Leu Val Leu Phe Asn Gly Arg Trp Thr Arg Gly
 355 360 365

Ser Thr Ala Gly Gly Cys Leu Asn Tyr Pro Gly Thr Tyr Trp Thr Asn
 370 375 380

Pro Gln Phe Lys Ile His Leu Asp Glu Val Asp Glu Asp Gln Glu Glu
 385 390 395 400

Gly Thr Ser Glu Pro Cys Cys Thr Val Leu Leu Gly Leu Met Gln Lys
 405 410 415

Asn Arg Arg Arg Gln Lys Arg Ile Gly Gln Gly Met Leu Ser Ile Gly
 420 425 430

Tyr Ala Val Tyr Gln Ile Pro Lys Glu Leu Glu Ser His Thr Asp Ala
 435 440 445

His Leu Gly Arg Asp Phe Phe Leu Gly Arg Gln Pro Ser Thr Cys Ser
 450 455 460

Ser Thr Tyr Met Asn Leu Arg Glu Val Ser Ser Arg Val Arg Leu Pro
 465 470 475 480
 Pro Gly Gln Tyr Leu Val Val Pro Ser Thr Phe Glu Pro Phe Lys Asp
 485 490 495
 Gly Asp Phe Cys Leu Arg Val Phe Ser Glu Lys Lys Ala Lys Ala Leu
 500 505 510
 Glu Ile Gly Asp Thr Val Ser Gly His Pro His Glu Pro His Pro Arg
 515 520 525
 Asp Met Asp Glu Glu Asp Glu His Val Arg Ser Leu Phe Glu Glu Phe
 530 535 540
 Val Gly Lys Asp Ser Glu Ile Ser Ala Asn Gln Leu Lys Arg Val Leu
 545 550 555 560
 Asn Glu Val Leu Ser Lys Arg Thr Asp Met Lys Phe Asp Gly Phe Asn
 565 570 575
 Ile Asn Thr Cys Arg Glu Met Ile Ser Leu Leu Asp Ser Asp Gly Thr
 580 585 590
 Gly Ser Leu Gly Pro Met Glu Phe Lys Thr Leu Trp Leu Lys Ile Arg
 595 600 605
 Thr Tyr Leu Glu Ile Phe Gln Glu Met Asp His Asn His Val Gly Thr
 610 615 620
 Ile Glu Ala His Glu Met Arg Thr Ala Leu Lys Lys Ala Gly Phe Thr
 625 630 635 640
 Leu Asn Asn Gln Val Gln Gln Thr Ile Ala Met Arg Tyr Ala Cys Ser
 645 650 655
 Lys Leu Gly Val Asp Phe Asn Gly Phe Val Ala Cys Met Ile Arg Leu
 660 665 670
 Glu Thr Leu Phe Lys Leu Phe Arg Leu Leu Asp Lys Asp Gln Asn Gly
 675 680 685
 Ile Val Gln Leu Ser Leu Ala Glu Trp Leu Cys Cys Val Leu Val
 690 695 700

<210> 116

<213> Rattus norvegicus

```
<400> 116
Met Ala Ala Leu Ala Ala Gly Val Ser Lys Gln Arg Ala Val Ala Glu
      1              5              10              15
```

1
Gly Leu Gly Ser Asn Gln Asn Ala Val Lys Tyr Leu Gly Gln Asp Phe
20 25 30

Glu Thr Leu Arg Lys Gln Cys Leu Asn Ser Gly Val Leu Phe Lys Asp
35 40 45

Pro Glu Phe Pro Ala Cys Pro Ser Ala Leu Gly Tyr Lys Asp Leu Gly
50 55 60

Pro Gly Ser Pro Asp Thr Gln Gly Ile Val Trp Lys Arg Pro Thr Glu
65 70 75 80

Leu Cys Pro Asn Pro Gln Phe Ile Val Gly Gly Ala Thr Arg Thr Asp
85 90 95

Ile Arg Gln Gly Gly Leu Val Asp Cys Trp Leu Leu Ala Ala Ile Ala
100 105 110

Ser Leu Thr Leu Asn Glu Lys Leu Leu Tyr Arg Val Leu Pro Arg Asp
115 120 125

Gln Ser Phe Gln Lys Asp Tyr Ala Gly Ile Phe His Phe Gln Phe Trp
130 135 140

Gln Tyr Gly Glu Trp Val Glu Val Val Ile Asp Asp Arg Leu Pro Thr
145 150 155 160

Lys Asn Gly Gln Leu Leu Phe Leu His Ser Glu Glu Gly Asn Glu Phe
165 170 175

Trp Ser Ala Leu Leu Glu Lys Ala Tyr Ala Lys Leu Asn Gly Ser Tyr
180 185 190

Glu Ala Leu Val Gly Gly Ser Thr Ile Glu Gly Phe Glu Asp Phe Thr
195 200 205

Gly Gly Ile Ser Glu Phe Tyr Asp Leu Lys Lys Pro Pro Glu Asn Leu
210 215 220

Tyr Tyr Ile Ile Gln Lys Ala Leu Arg Lys Gly Ser Leu Leu Gly Cys

225		230		235		240
Ser Ile Asp Val	Ser Thr Ala Ala	Glu Ala Glu Ala	Thr Thr Arg Gln			
	245		250		255	
Lys Leu Val Lys Gly	His Ala Tyr Ser	Val Thr Gly Val	Glu Glu Val			
	260		265		270	
Asn Phe His Gly Arg	Pro Glu Lys Leu	Ile Arg Leu Arg	Asn Pro Trp			
	275		280		285	
Gly Glu Val Glu Trp	Ser Gly Ala Trp	Ser Asp Asn Ala	Pro Glu Trp			
	290		300			
Asn Tyr Ile Asp Pro	Arg Arg Lys Glu	Glu Leu Asp Lys	Lys Ala Glu			
305		310		315		320
Asp Gly Glu Phe Trp	Met Ser Phe Ser	Asp Phe Leu Lys	Gln Tyr Ser			
	325		330		335	
Arg Leu Glu Ile Cys	Asn Leu Ser Pro	Asp Ser Leu Ser	Ser Glu Glu			
	340		345		350	
Ile His Lys Trp Asn	Leu Val Leu Phe	Asn Gly Arg Trp	Thr Arg Gly			
	355		360		365	
Ser Thr Ala Gly Gly	Cys Leu Asn Tyr	Pro Gly Thr Tyr	Trp Thr Asn			
	370		380			
Pro Gln Phe Lys Ile	His Leu Asp Glu	Val Asp Glu Asp	Gln Glu Glu			
385		390		395		400
Gly Thr Ser Glu Pro	Cys Cys Thr Val	Leu Leu Gly Leu	Met Gln Lys			
	405		410		415	
Asn Arg Arg Arg Gln	Lys Arg Ile Gly	Gln Gly Met Leu	Ser Ile Gly			
	420		425		430	
Tyr Ala Val Tyr Gln	Ile Pro Lys Glu	Leu Glu Ser His	Thr Asp Ala			
	435		440		445	
His Leu Gly Arg Asp	Phe Phe Leu Gly	Arg Gln Pro Ser	Thr Cys Ser			
	450		455		460	
Ser Thr Tyr Met Asn	Leu Arg Glu Val	Ser Ser Arg Val	Arg Leu Pro			
465		470		475		480
Pro Gly Gln Tyr Leu	Val Val Pro Ser	Thr Phe Glu Pro	Phe Lys Asp			

	485	490	495
Gly Asp Phe Cys Leu Arg Val Phe Ser Glu Lys Lys Ala Lys Ala Leu			
500	505	510	
Glu Ile Gly Asp Thr Val Ser Gly His Pro His Glu Pro His Pro Arg			
515	520	525	
Asp Met Asp Glu Glu Asp Glu His Val Arg Ser Leu Phe Glu Glu Phe			
530	535	540	
Val Gly Lys Asp Ser Glu Ile Ser Ala Asn Gln Leu Lys Arg Val Leu			
545	550	555	560
Asn Glu Val Leu Ser Lys Arg Thr Asp Met Lys Phe Asp Gly Phe Asn			
565	570	575	
Ile Asn Thr Cys Arg Glu Met Ile Ser Leu Leu Asp Ser Asp Gly Thr			
580	585	590	
Gly Ser Leu Gly Pro Met Glu Phe Lys Thr Leu Trp Leu Lys Ile Arg			
595	600	605	
Thr Tyr Leu Glu Ile Phe Gln Glu Met Asp His Asn His Val Gly Thr			
610	615	620	
Ile Glu Ala His Glu Met Arg Thr Ala Leu Lys Lys Ala Gly Phe Thr			
625	630	635	640
Leu Asn Asn Gln Val Gln Gln Thr Ile Ala Met Arg Tyr Ala Cys Ser			
645	650	655	
Lys Leu Gly Val Asp Phe Asn Gly Phe Val Ala Cys Met Ile Arg Leu			
660	665	670	
Glu Thr Leu Phe Lys Leu Phe Arg Leu Leu Asp Lys Asp Gln Asn Gly			
675	680	685	
Ile Val Gln Leu Ser Leu Ala Glu Trp Leu Cys Cys Val Leu Val			
690	695	700	

<210> 117
 <211> 709
 <212> PRT
 <213> Rattus norvegicus

 <400> 117

Met Pro Tyr Leu Leu Pro Gly Phe Phe Cys Asp Arg Val Ile Arg Glu
 1 5 10 15
 Arg Asp Arg Arg Asn Gly Glu Gly Thr Val Ser Gln Pro Leu Lys Phe
 20 25 30
 Glu Gly Gln Asp Phe Val Val Leu Lys Gln Arg Cys Leu Ala Gln Lys
 35 40 45
 Cys Leu Phe Glu Asp Arg Val Phe Pro Ala Gly Thr Gln Ala Leu Gly
 50 55 60
 Ser His Glu Leu Ser Gln Lys Ala Lys Met Lys Ala Ile Thr Trp Lys
 65 70 75 80
 Arg Pro Lys Glu Ile Cys Glu Asn Pro Arg Phe Ile Ile Gly Gly Ala
 85 90 95
 Asn Arg Thr Asp Ile Cys Gln Gly Asp Leu Gly Asp Cys Trp Phe Leu
 100 105 110
 Ala Ala Ile Ala Cys Leu Thr Leu Asn Glu Arg Leu Leu Phe Arg Val
 115 120 125
 Ile Pro His Asp Gln Ser Phe Thr Glu Asn Tyr Ala Gly Ile Phe His
 130 135 140
 Phe Gln Phe Trp Arg Tyr Gly Asp Trp Val Asp Val Val Ile Asp Asp
 145 150 155 160
 Cys Leu Pro Thr Tyr Asn Asn Gln Leu Val Phe Thr Lys Ser Asn His
 165 170 175
 Arg Asn Glu Phe Trp Ser Ala Leu Leu Glu Lys Ala Tyr Ala Lys Leu
 180 185 190
 His Gly Ser Tyr Glu Ala Leu Lys Gly Gly Asn Thr Thr Glu Ala Met
 195 200 205
 Glu Asp Phe Thr Gly Gly Val Thr Glu Phe Phe Glu Ile Lys Asp Ala
 210 215 220
 Pro Ser Asp Met Tyr Lys Ile Met Arg Lys Ala Ile Glu Arg Gly Ser
 225 230 235 240
 Leu Met Gly Cys Ser Ile Asp Thr Ile Val Pro Val Gln Tyr Glu Thr
 245 250 255

Arg Met Ala Cys Gly Leu Val Lys Gly His Ala Tyr Ser Val Thr Gly
 260 265 270
 Leu Glu Glu Ala Leu Phe Lys Gly Glu Lys Val Lys Leu Val Arg Leu
 275 280 285
 Arg Asn Pro Trp Gly Gln Val Glu Trp Asn Gly Ser Trp Ser Asp Gly
 290 295 300
 Trp Lys Asp Trp Ser Phe Val Asp Lys Asp Glu Lys Ala Arg Leu Gln
 305 310 315 320
 His Gln Val Thr Glu Asp Gly Glu Phe Trp Met Ser Tyr Asp Asp Phe
 325 330 335
 Val Tyr His Phe Thr Lys Leu Glu Ile Cys Asn Leu Thr Ala Asp Ala
 340 345 350
 Leu Glu Ser Asp Lys Leu Gln Thr Trp Thr Val Ser Val Asn Glu Gly
 355 360 365
 Arg Trp Val Arg Gly Cys Ser Ala Gly Gly Cys Arg Asn Phe Pro Asp
 370 375 380
 Thr Phe Trp Thr Asn Pro Gln Tyr Arg Leu Lys Leu Leu Glu Glu Asp
 385 390 395 400
 Asp Asp Pro Asp Asp Ser Glu Val Ile Cys Ser Phe Leu Val Ala Leu
 405 410 415
 Met Gln Lys Asn Arg Arg Lys Asp Arg Lys Leu Gly Ala Asn Leu Phe
 420 425 430
 Thr Ile Gly Phe Ala Ile Tyr Glu Val Pro Lys Glu Met His Gly Asn
 435 440 445
 Lys Gln His Leu Gln Lys Asp Phe Phe Leu Tyr Asn Ala Ser Lys Ala
 450 455 460
 Arg Ser Lys Thr Tyr Ile Asn Met Arg Glu Val Ser Gln Arg Phe Arg
 465 470 475 480
 Leu Pro Pro Ser Glu Tyr Val Ile Val Pro Ser Thr Tyr Glu Pro His
 485 490 495
 Gln Glu Gly Glu Phe Ile Leu Arg Val Phe Ser Glu Lys Arg Asn Leu
 500 505 510

Ser Glu Glu Ala Glu Asn Thr Ile Ser Val Asp Arg Pro Val Pro Arg
515 520 525

Pro Gly His Thr Asp Gln Glu Ser Glu Glu Gln Gln Gln Phe Arg Asn
530 535 540

Ile Phe Arg Gln Ile Ala Gly Asp Asp Met Glu Ile Cys Ala Asp Glu
545 550 555 560

Leu Lys Asn Val Leu Asn Thr Val Val Asn Lys His Lys Asp Leu Lys
565 570 575

Thr Gln Gly Phe Thr Leu Glu Ser Cys Arg Ser Met Ile Ala Leu Met
580 585 590

Asp Thr Asp Gly Ser Gly Arg Leu Asn Leu Gln Glu Phe His His Leu
595 600 605

Trp Lys Lys Ile Lys Ala Trp Gln Lys Ile Phe Lys His Tyr Asp Thr
610 615 620

Asp His Ser Gly Thr Ile Asn Ser Tyr Glu Met Arg Asn Ala Val Asn
625 630 635 640

Asp Ala Gly Phe His Leu Asn Ser Gln Leu Tyr Asp Ile Ile Thr Met
645 650 655

Arg Tyr Ala Asp Lys His Met Asn Ile Asp Phe Asp Ser Phe Ile Cys
660 665 670

Cys Phe Val Arg Leu Glu Gly Met Phe Arg Ala Phe His Ala Phe Asp
675 680 685

Lys Asp Gly Asp Gly Ile Ile Lys Leu Asn Val Leu Glu Trp Leu Gln
690 695 700

Leu Thr Met Tyr Ala
705

<210> 118

<211> 297

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Calpain-like
thiol protease family domain sequence

<400> 118
 Phe Glu Asn Gln Asp Tyr Glu Glu Leu Arg Gln Glu Cys Leu Glu Glu
 1 5 10 15
 Gly Gly Leu Phe Val Asp Pro Leu Phe Pro Ala Lys Pro Ser Ser Leu
 20 25 30
 Phe Phe Ser Gln Leu Gln Arg Lys Phe Val Val Trp Lys Arg Pro His
 35 40 45
 Glu Ile Phe Glu Asp Pro Pro Leu Ile Val Gly Gly Ala Ser Arg Thr
 50 55 60
 Asp Ile Cys Gln Gly Val Leu Gly Asp Cys Trp Leu Leu Ala Ala Leu
 65 70 75 80
 Ala Ala Leu Thr Leu Arg Glu Glu Leu Leu Ala Arg Val Ile Pro Lys
 85 90 95
 Asp Gln Glu Phe Ser Glu Asn Tyr Ala Gly Ile Tyr His Phe Arg Phe
 100 105 110
 Trp Arg Tyr Gly Lys Trp Val Asp Val Val Ile Asp Asp Arg Leu Pro
 115 120 125
 Thr Tyr Asn Gly Asp Leu Leu Phe Met His Ser Asn Ser Arg Asn Glu
 130 135 140
 Phe Trp Ser Ala Leu Leu Glu Lys Ala Tyr Ala Lys Leu Arg Gly Cys
 145 150 155 160
 Tyr Glu Ala Leu Lys Gly Gly Ser Thr Thr Glu Ala Leu Glu Asp Leu
 165 170 175
 Thr Gly Gly Val Ala Glu Ser Ile Glu Leu Lys Lys Ile Ser Lys Asp
 180 185 190
 Pro Asp Glu Leu Phe Lys Asp Leu Lys Lys Ala Phe Glu Arg Gly Ser
 195 200 205
 Leu Met Gly Cys Ser Ile Gly Ala Gly Thr Ala Val Glu Glu Glu Glu
 210 215 220
 Gln Lys Arg Asn Gly Leu Val Lys Gly His Ala Tyr Ser Val Thr Asp
 225 230 235 240
 Val Arg Glu Val Asp Gly Arg Arg Arg Gln Lys Leu Leu Arg Leu Arg

Leu Ser Gly Gly Ser Thr Thr Glu Ala Leu Glu Asp Leu Thr Gly Gly
 145 150 155 160

Val Cys Glu Ser Tyr Glu Leu Lys Leu Ala Pro Ser Ser Met Leu Asn
 165 170 175

Leu Gly Asn Ile Ile Lys Lys Met Leu Glu Arg Gly Ser Leu Leu Gly
 180 185 190

Cys Ser Ile Asp Ile Thr Ser Pro Val Asp Met Glu Ala Arg Met Ala
 195 200 205

Lys Gly Leu Val Lys Gly His Ala Tyr Ser Val Thr Gly Val Lys Glu
 210 215 220

Val Asn Tyr Arg Gly Glu Gly Val Lys Leu Ile Arg Leu Arg Asn Pro
 225 230 235 240

Trp Gly Gln Val Glu Trp Thr Gly Asp Trp Ser Asp Ser Ser Pro Asp
 245 250 255

Trp Asn Ile Val Asp Pro Asp Glu Lys Ala Arg Leu Gln Leu Lys Phe
 260 265 270

Glu Asp Gly Glu Phe Trp Met Ser Phe Glu Asp Phe Leu Arg His
 275 280 285

<210> 120

<211> 497

<212> PRT

<213> Homo sapiens

<400> 120

Met Ala Ala Ala Gln Pro Lys Tyr Pro Ala Gly Ala Thr Ala Arg Arg
 1 5 10 15

Leu Ala Arg Gly Cys Trp Ser Ala Leu Trp Asp Tyr Glu Thr Pro Lys
 20 25 30

Val Ile Val Val Arg Asn Arg Arg Leu Gly Val Leu Tyr Arg Ala Val
 35 40 45

Gln Leu Leu Ile Leu Leu Tyr Phe Val Trp Tyr Val Phe Ile Val Gln
 50 55 60

Lys Ser Tyr Gln Glu Ser Glu Thr Gly Pro Glu Ser Ser Ile Ile Thr

65		70		75		80
Lys Val Lys Gly Ile Thr Thr Ser Glu His Lys Val Trp Asp Val Glu						
	85		90		95	
Glu Tyr Val Lys Pro Pro Glu Gly Gly Ser Val Phe Ser Ile Ile Thr						
	100		105		110	
Arg Val Glu Ala Thr His Ser Gln Thr Gln Gly Thr Cys Pro Glu Ser						
	115		120		125	
Ile Arg Val His Asn Ala Thr Cys Leu Ser Asp Ala Asp Cys Val Ala						
	130		135		140	
Gly Glu Leu Asp Met Leu Gly Asn Gly Leu Arg Thr Gly Arg Cys Val						
145		150		155		160
Pro Tyr Tyr Gln Gly Pro Ser Lys Thr Cys Glu Val Phe Gly Trp Cys						
	165		170		175	
Pro Val Glu Asp Gly Ala Ser Val Ser Gln Phe Leu Gly Thr Met Ala						
	180		185		190	
Pro Asn Phe Thr Ile Leu Ile Lys Asn Ser Ile His Tyr Pro Lys Phe						
	195		200		205	
His Phe Ser Lys Gly Asn Ile Ala Asp Arg Thr Asp Gly Tyr Leu Lys						
	210		215		220	
Arg Cys Thr Phe His Glu Ala Ser Asp Leu Tyr Cys Pro Ile Phe Lys						
225		230		235		240
Leu Gly Phe Ile Val Glu Lys Ala Gly Glu Ser Phe Thr Glu Leu Ala						
	245		250		255	
His Lys Gly Gly Val Ile Gly Val Ile Ile Asn Trp Asp Cys Asp Leu						
	260		265		270	
Asp Leu Pro Ala Ser Glu Cys Asn Pro Lys Tyr Ser Phe Arg Arg Leu						
	275		280		285	
Asp Pro Lys His Val Pro Ala Ser Ser Gly Tyr Asn Phe Arg Phe Ala						
	290		295		300	
Lys Tyr Tyr Lys Ile Asn Gly Thr Thr Thr Arg Thr Leu Ile Lys Ala						
305		310		315		320
Tyr Gly Ile Arg Ile Asp Val Ile Val His Gly Gln Ala Gly Lys Phe						

Val Ile Val Val Arg Asn Arg Arg Leu Gly Val Leu Tyr Arg Ala Val
 35 40 45
 Gln Leu Leu Ile Leu Leu Tyr Phe Val Trp Tyr Val Phe Ile Val Gln
 50 55 60
 Lys Ser Tyr Gln Glu Ser Glu Thr Gly Pro Glu Ser Ser Ile Ile Thr
 65 70 75 80
 Lys Val Lys Gly Ile Thr Thr Ser Glu His Lys Val Trp Asp Val Glu
 85 90 95
 Glu Tyr Val Lys Pro Pro Glu Ser Ile Arg Val His Asn Ala Thr Cys
 100 105 110
 Leu Ser Asp Ala Asp Cys Val Ala Gly Glu Leu Asp Met Leu Gly Asn
 115 120 125
 Gly Leu Arg Thr Gly Arg Cys Val Pro Tyr Tyr Gln Gly Pro Ser Lys
 130 135 140
 Thr Cys Glu Val Phe Gly Trp Cys Pro Val Glu Asp Gly Ala Ser Val
 145 150 155 160
 Ser Gln Phe Leu Gly Thr Met Ala Pro Asn Phe Thr Ile Leu Ile Lys
 165 170 175
 Asn Ser Ile His Tyr Pro Lys Phe His Phe Ser Lys Gly Asn Ile Ala
 180 185 190
 Asp Arg Thr Asp Gly Tyr Leu Lys Arg Cys Thr Phe His Glu Ala Ser
 195 200 205
 Asp Leu Tyr Cys Pro Ile Phe Lys Leu Gly Phe Ile Val Glu Lys Ala
 210 215 220
 Gly Glu Ser Phe Thr Glu Leu Ala His Lys Gly Gly Val Ile Gly Val
 225 230 235 240
 Ile Ile Asn Trp Asp Cys Asp Leu Asp Leu Pro Ala Ser Glu Cys Asn
 245 250 255
 Pro Lys Tyr Ser Phe Arg Arg Leu Asp Pro Lys His Val Pro Ala Ser
 260 265 270
 Ser Gly Tyr Asn Phe Arg Phe Ala Lys Tyr Tyr Lys Ile Asn Gly Thr
 275 280 285

Thr Thr Arg Thr Leu Ile Lys Ala Tyr Gly Ile Arg Ile Asp Val Ile
 290 295 300

Val His Gly Gln Ala Gly Lys Phe Ser Leu Ile Pro Thr Ile Ile Asn
 305 310 315 320

Leu Ala Thr Ala Leu Thr Ser Val Gly Val Gly Ser Phe Leu Cys Asp
 325 330 335

Trp Ile Leu Leu Thr Phe Met Asn Lys Asn Lys Val Tyr Ser His Lys
 340 345 350

Lys Phe Asp Lys Val Cys Thr Pro Ser His Pro Ser Gly Ser Trp Pro
 355 360 365

Val Thr Leu Ala Arg Val Leu Gly Gln Ala Pro Pro Glu Pro Gly His
 370 375 380

Arg Ser Glu Asp Gln His Pro Ser Pro Pro Ser Gly Gln Glu Gly Gln
 385 390 395 400

Gln Gly Ala Glu Cys Gly Pro Ala Phe Pro Pro Leu Arg Pro Cys Pro
 405 410 415

Ile Ser Ala Pro Ser Glu Gln Met Val Asp Thr Pro Ala Ser Glu Pro
 420 425 430

Ala Gln Ala Ser Thr Pro Thr Asp Pro Lys Gly Leu Ala Gln Leu
 435 440 445

<210> 122

<211> 447

<212> PRT

<213> Homo sapiens

<400> 122

Met Ala Ala Ala Gln Pro Lys Tyr Pro Ala Gly Ala Thr Ala Arg Arg
 1 5 10 15

Leu Ala Arg Gly Cys Trp Ser Ala Leu Trp Asp Tyr Glu Thr Pro Lys
 20 25 30

Val Ile Val Val Arg Asn Arg Arg Leu Gly Val Leu Tyr Arg Ala Val
 35 40 45

Gln Leu Leu Ile Leu Leu Tyr Phe Val Trp Tyr Val Phe Ile Val Gln
 50 55 60

Lys Ser Tyr Gln Glu Ser Glu Thr Gly Pro Glu Ser Ser Ile Ile Thr
 65 70 75 80

Lys Val Lys Gly Ile Thr Thr Ser Glu His Lys Val Trp Asp Val Glu
 85 90 95

Glu Tyr Val Lys Pro Pro Glu Ser Ile Arg Val His Asn Ala Thr Cys
 100 105 110

Leu Ser Asp Ala Asp Cys Val Ala Gly Glu Leu Asp Met Leu Gly Asn
 115 120 125

Gly Leu Arg Thr Gly Arg Cys Val Pro Tyr Tyr Gln Gly Pro Ser Lys
 130 135 140

Thr Cys Glu Val Phe Gly Trp Cys Pro Val Glu Asp Gly Ala Ser Val
 145 150 155 160

Ser Gln Phe Leu Gly Thr Met Ala Pro Asn Phe Thr Ile Leu Ile Lys
 165 170 175

Asn Ser Ile His Tyr Pro Lys Phe His Phe Ser Lys Gly Asn Ile Ala
 180 185 190

Asp Arg Thr Asp Gly Tyr Leu Lys Arg Cys Thr Phe His Glu Ala Ser
 195 200 205

Asp Leu Tyr Cys Pro Ile Phe Lys Leu Gly Phe Ile Val Glu Lys Ala
 210 215 220

Gly Glu Ser Phe Thr Glu Leu Ala His Lys Gly Gly Val Ile Gly Val
 225 230 235 240

Ile Ile Asn Trp Asp Cys Asp Leu Asp Leu Pro Ala Ser Glu Cys Asn
 245 250 255

Pro Lys Tyr Ser Phe Arg Arg Leu Asp Pro Lys His Val Pro Ala Ser
 260 265 270

Ser Gly Tyr Asn Phe Arg Phe Ala Lys Tyr Tyr Lys Ile Asn Gly Thr
 275 280 285

Thr Thr Arg Thr Leu Ile Lys Ala Tyr Gly Ile Arg Ile Asp Val Ile
 290 295 300

Val His Gly Gln Ala Gly Lys Phe Ser Leu Ile Pro Thr Ile Ile Asn
 305 310 315 320

Leu Ala Thr Ala Leu Thr Ser Val Gly Val Gly Ser Phe Leu Cys Asp
 325 330 335

Trp Ile Leu Leu Thr Phe Met Asn Lys Asn Lys Val Tyr Ser His Lys
 340 345 350

Lys Phe Asp Lys Val Cys Thr Pro Ser His Pro Ser Gly Ser Trp Pro
 355 360 365

Val Thr Leu Ala Arg Val Leu Gly Gln Ala Pro Pro Glu Pro Gly His
 370 375 380

Arg Ser Glu Asp Gln His Pro Ser Pro Pro Ser Gly Gln Glu Gly Gln
 385 390 395 400

Gln Gly Ala Glu Cys Gly Pro Ala Phe Pro Pro Leu Arg Pro Cys Pro
 405 410 415

Ile Ser Ala Pro Ser Glu Gln Met Val Asp Thr Pro Ala Ser Glu Pro
 420 425 430

Ala Gln Ala Ser Thr Pro Thr Asp Pro Lys Gly Leu Ala Gln Leu
 435 440 445

<210> 123

<211> 459

<212> PRT

<213> Homo sapiens

<400> 123

Met Val Arg Arg Leu Ala Arg Gly Cys Trp Ser Ala Leu Trp Asp Tyr
 1 5 10 15

Glu Thr Pro Lys Val Ile Val Val Arg Asn Arg Arg Leu Gly Val Leu
 20 25 30

Tyr Arg Ala Val Gln Leu Leu Ile Leu Leu Tyr Phe Val Trp Tyr Val
 35 40 45

Phe Ile Val Gln Lys Ser Tyr Gln Glu Ser Glu Thr Gly Pro Glu Ser
 50 55 60

Ser Ile Ile Thr Lys Val Lys Gly Ile Thr Thr Ser Glu His Lys Val
 65 70 75 80

Trp Asp Val Glu Glu Tyr Val Lys Pro Pro Glu Gly Gly Ser Val Phe

85	90	95
Ser Ile Ile Thr Arg Val Glu Ala Thr His Ser Gln Thr Gln Gly Thr	105	110
100		
Cys Pro Glu Ser Ile Arg Val His Asn Ala Thr Cys Leu Ser Asp Ala	120	125
115		
Asp Cys Val Ala Gly Glu Leu Asp Met Leu Gly Asn Gly Leu Arg Thr	135	140
130		
Gly Arg Cys Val Pro Tyr Tyr Gln Gly Pro Ser Lys Thr Cys Glu Val	150	155
145		160
Phe Gly Trp Cys Pro Val Glu Asp Gly Ala Ser Val Ser Gln Phe Leu	170	175
165		
Gly Thr Met Ala Pro Asn Phe Thr Ile Leu Ile Lys Asn Ser Ile His	185	190
180		
Tyr Pro Lys Phe His Phe Ser Lys Gly Asn Ile Ala Asp Arg Thr Asp	200	205
195		
Gly Tyr Leu Lys Arg Cys Thr Phe His Glu Ala Ser Asp Leu Tyr Cys	215	220
210		
Pro Ile Phe Lys Leu Gly Phe Ile Val Glu Lys Ala Gly Glu Ser Phe	235	240
225	230	
Thr Glu Leu Ala His Lys Gly Gly Val Ile Gly Val Ile Ile Asn Trp	250	255
245		
Asp Cys Asp Leu Asp Leu Pro Ala Ser Glu Cys Asn Pro Lys Tyr Ser	265	270
260		
Phe Arg Arg Leu Asp Pro Lys His Val Pro Ala Ser Ser Gly Tyr Asn	280	285
275		
Phe Arg Phe Ala Lys Tyr Tyr Lys Ile Asn Gly Thr Thr Thr Arg Thr	295	300
290		
Leu Ile Lys Ala Tyr Gly Ile Arg Ile Asp Val Ile Val His Gly Gln	315	320
305	310	
Ala Gly Lys Phe Ser Leu Ile Pro Thr Ile Ile Asn Leu Ala Thr Ala	330	335
325		
Leu Thr Ser Val Gly Val Gly Ser Phe Leu Cys Asp Trp Ile Leu Leu		

340 345 350
 Thr Phe Met Asn Lys Asn Lys Val Tyr Ser His Lys Lys Phe Asp Lys
 355 360 365
 Val Cys Thr Pro Ser His Pro Ser Gly Ser Trp Pro Val Thr Leu Ala
 370 375 380
 Arg Val Leu Gly Gln Ala Pro Pro Glu Pro Gly His Arg Ser Glu Asp
 385 390 395 400
 Gln His Pro Ser Pro Pro Ser Gly Gln Glu Gly Gln Gln Gly Ala Glu
 405 410 415
 Cys Gly Pro Ala Phe Pro Pro Leu Arg Pro Cys Pro Ile Ser Ala Pro
 420 425 430
 Ser Glu Gln Met Val Asp Thr Pro Ala Ser Glu Pro Ala Gln Ala Ser
 435 440 445
 Thr Pro Thr Asp Pro Lys Gly Leu Ala Gln Leu
 450 455

<210> 124
 <211> 404
 <212> PRT
 <213> Homo sapiens

<400> 124
 Met Ala Ala Ala Gln Pro Lys Tyr Pro Ala Gly Ala Thr Ala Arg Arg
 1 5 10 15
 Leu Ala Arg Gly Cys Trp Ser Ala Leu Trp Asp Tyr Glu Thr Pro Lys
 20 25 30
 Val Ile Val Val Arg Asn Arg Arg Leu Gly Val Leu Tyr Arg Ala Val
 35 40 45
 Gln Leu Leu Ile Leu Leu Tyr Phe Val Trp Tyr Val Phe Ile Val Gln
 50 55 60
 Lys Ser Tyr Gln Glu Ser Glu Thr Gly Pro Glu Ser Ser Ile Ile Thr
 65 70 75 80
 Lys Val Lys Gly Ile Thr Thr Ser Glu His Lys Val Trp Asp Val Glu
 85 90 95

Glu Tyr Val Lys Pro Pro Glu Gly Gly Ser Val Phe Ser Ile Ile Thr
 100 105 110

Arg Val Glu Ala Thr His Ser Gln Thr Gln Gly Thr Cys Pro Glu Ser
 115 120 125

Ile Arg Val His Asn Ala Thr Cys Leu Ser Asp Ala Asp Cys Val Ala
 130 135 140

Gly Glu Leu Asp Met Leu Gly Asn Gly Leu Arg Thr Gly Arg Cys Val
 145 150 155 160

Pro Tyr Tyr Gln Gly Pro Ser Lys Thr Cys Glu Val Phe Gly Trp Cys
 165 170 175

Pro Val Glu Asp Gly Ala Ser Val Ser Gln Phe Leu Gly Thr Met Ala
 180 185 190

Pro Asn Phe Thr Ile Leu Ile Lys Asn Ser Ile His Tyr Pro Lys Phe
 195 200 205

His Phe Ser Lys Gly Asn Ile Ala Asp Arg Thr Asp Gly Tyr Leu Lys
 210 215 220

Arg Cys Thr Phe His Glu Ala Ser Asp Leu Tyr Cys Pro Ile Phe Lys
 225 230 235 240

Leu Gly Phe Ile Val Glu Lys Ala Gly Glu Ser Phe Thr Glu Leu Ala
 245 250 255

His Lys Gly Gly Val Ile Gly Val Ile Ile Asn Trp Asp Cys Asp Leu
 260 265 270

Asp Leu Pro Ala Ser Glu Cys Asn Pro Lys Tyr Ser Phe Arg Arg Leu
 275 280 285

Asp Pro Lys His Val Pro Ala Ser Ser Gly Tyr Asn Phe Arg Phe Ala
 290 295 300

Lys Tyr Tyr Lys Ile Asn Gly Thr Thr Thr Arg Thr Leu Ile Lys Ala
 305 310 315 320

Tyr Gly Ile Arg Ile Asp Val Ile Val His Gly Gln Ala Gly Lys Phe
 325 330 335

Ser Leu Ile Pro Thr Ile Ile Asn Leu Ala Thr Ala Leu Thr Ser Val
 340 345 350

Gly Val Gly Ser Phe Leu Cys Asp Trp Ile Leu Leu Thr Phe Met Asn
 355 360 365

Lys Asn Lys Val Tyr Ser His Lys Lys Phe Asp Lys Met Val Asp Thr
 370 375 380

Pro Ala Ser Glu Pro Ala Gln Ala Ser Thr Pro Thr Asp Pro Lys Gly
 385 390 395 400

Leu Ala Gln Leu

<210> 125

<211> 364

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: P2X_receptor
 domain sequence

<400> 125

Phe Asp Tyr Lys Thr Pro Lys Tyr Val Val Val Arg Asn Lys Lys Val
 1 5 10 15

Gly Leu Leu Asn Arg Leu Val Gln Leu Leu Ile Leu Val Tyr Val Val
 20 25 30

Gly Trp Val Phe Leu Ile Glu Lys Gly Tyr Gln Asp Ser Asp Thr Ser
 35 40 45

Leu Gln Ser Ser Val Ile Thr Lys Val Lys Gly Val Ala Val Thr Asn
 50 55 60

Thr Ser Glu Leu Gly Asn Arg Val Trp Asp Val Ala Asp Tyr Val Ile
 65 70 75 80

Pro Pro Gln Gly Glu Asn Val Phe Phe Val Val Thr Asn Phe Ile Val
 85 90 95

Thr Pro Asn Gln Thr Gln Gly Thr Cys Pro Glu His Pro Glu Val Pro
 100 105 110

Asp Gly Thr Cys Lys Ser Asp Ser Asp Cys Thr Ala Gly Glu Ala Gly
 115 120 125

Thr His Gly Asn Gly Ile Lys Thr Gly Arg Cys Val Ala Phe Asn Gly

130	135	140
Ser Val Arg Arg Thr Cys Glu Ile Phe Ala Trp Cys Pro Val Glu Val		
145	150	155 160
Asp Thr Val Pro Asn Pro Pro Leu Leu Lys Glu Ala Glu Asn Phe Thr		
	165	170 175
Ile Phe Ile Lys Asn Ser Ile Arg Phe Pro Lys Phe Asn Phe Ser Lys		
	180	185 190
Gly Asn Leu Leu Glu Asn Lys Thr Asp Thr Tyr Leu Lys His Cys Arg		
	195	200 205
Phe His Pro Thr Asn Asp Pro Tyr Cys Pro Ile Phe Arg Leu Gly Asp		
	210	215 220
Val Val Glu Lys Ala Gly Gln Asp Phe Gln Asp Leu Ala Leu Lys Gly		
	225	230 235 240
Gly Val Ile Gly Ile Ile Ile Asn Trp Asp Cys Asp Leu Asp Lys Ala		
	245	250 255
Ala Ser Glu Cys Asn Pro His Tyr Ser Phe Arg Arg Leu Asp Asn Lys		
	260	265 270
Lys Glu Lys Ser Val Ser Pro Gly Tyr Asn Phe Arg Phe Ala Lys Tyr		
	275	280 285
Tyr Arg Asp Asn Asn Gly Val Glu Tyr Arg Thr Leu Leu Lys Ala Tyr		
	290	295 300
Gly Ile Arg Phe Asp Val Leu Val Asn Gly Lys Ala Gly Lys Phe Asp		
	305	310 315 320
Ile Ile Pro Thr Ile Ile Asn Ile Gly Ser Gly Leu Ala Ser Leu Gly		
	325	330 335
Val Gly Thr Phe Leu Cys Asp Leu Ile Leu Leu Tyr Phe Leu Lys Lys		
	340	345 350
Arg His Phe Tyr Arg Asp Lys Lys Phe Glu Glu Val		
	355	360

<210> 126
 <211> 571
 <212> PRT

<213> Mus musculus

<400> 126

Met Asp His Thr Ala Pro Thr Tyr Met Leu Ala Asn Leu Thr His Leu
1 5 10 15
His Ser Glu Gln Leu Leu Gln Gly Leu Asn Leu Leu Arg Gln His His
20 25 30
Glu Leu Cys Asp Ile Ile Leu Arg Val Gly Asp Val Lys Ile His Ala
35 40 45
His Lys Val Val Leu Ala Ser Ile Ser Pro Tyr Phe Lys Ala Met Phe
50 55 60
Thr Gly Asn Leu Ser Glu Lys Glu Asn Ser Glu Val Glu Phe Gln Cys
65 70 75 80
Ile Asp Glu Ala Ala Leu Gln Ala Ile Val Glu Tyr Ala Tyr Thr Gly
85 90 95
Thr Val Phe Ile Ser Gln Asp Thr Val Glu Ser Leu Leu Pro Ala Ala
100 105 110
Asn Leu Leu Gln Ile Lys Leu Val Leu Lys Glu Cys Cys Ala Phe Leu
115 120 125
Glu Ser Gln Leu Asp Pro Gly Asn Cys Ile Gly Ile Ser Arg Phe Ala
130 135 140
Glu Thr Tyr Gly Cys His Asp Leu Tyr Leu Ala Ala Thr Lys Phe Ile
145 150 155 160
Cys Gln Asn Phe Glu Ser Val Cys Gln Thr Glu Glu Phe Phe Glu Leu
165 170 175
Thr His Ala Asp Leu Asp Glu Ile Val Ser Asn Asp Cys Leu Asn Val
180 185 190
Ala Thr Glu Glu Thr Val Phe Tyr Ala Leu Glu Ser Trp Ile Lys Tyr
195 200 205
Asp Val Gln Glu Arg Gln Lys Tyr Leu Ala Gln Leu Leu Asn Ser Val
210 215 220
Arg Leu Pro Leu Leu Ser Val Lys Phe Leu Thr Arg Leu Tyr Glu Ala
225 230 235 240

Asn His Leu Ile Arg Asp Asp Arg Thr Cys Lys His Leu Leu Asn Glu
 245 250 255

Ala Leu Lys Tyr His Phe Met Pro Glu His Arg Leu Ser His Gln Thr
 260 265 270

Val Leu Met Thr Arg Pro Arg Cys Ala Pro Lys Val Leu Cys Ala Val
 275 280 285

Gly Gly Lys Ser Gly Leu Phe Ala Cys Leu Asp Ser Val Glu Met Tyr
 290 295 300

Phe Pro Gln Asn Asp Ser Trp Ile Gly Leu Ala Pro Leu Asn Ile Pro
 305 310 315 320

Arg Tyr Glu Phe Gly Ile Cys Val Leu Asp Gln Lys Val Phe Val Ile
 325 330 335

Gly Gly Ile Glu Thr Ser Val Arg Pro Gly Met Thr Val Arg Lys His
 340 345 350

Glu Asn Ser Val Glu Cys Trp Asn Pro Asp Thr Asn Thr Trp Thr Ser
 355 360 365

Leu Glu Arg Met Asn Glu Ser Arg Ser Thr Leu Gly Val Ala Val Leu
 370 375 380

Ala Gly Glu Val Phe Ala Leu Gly Gly Tyr Asp Gly Gln Ser Tyr Leu
 385 390 395 400

Gln Ser Val Glu Lys Tyr Ile Pro Lys Ile Arg Gln Trp Gln Pro Val
 405 410 415

Ala Pro Met Thr Thr Thr Arg Ser Cys Phe Ala Ala Ala Val Leu Asp
 420 425 430

Gly Met Leu Tyr Ala Ile Gly Gly Tyr Gly Pro Ala His Met Asn Ser
 435 440 445

Val Glu Arg Tyr Asp Pro Ser Lys Asp Ser Trp Glu Met Val Ala Pro
 450 455 460

Met Ala Asp Lys Arg Ile His Phe Gly Val Gly Val Met Leu Gly Phe
 465 470 475 480

Ile Phe Val Val Gly Gly His Asn Gly Val Ser His Leu Ser Ser Ile
 485 490 495

Glu Arg Tyr Asp Pro His Gln Asn Gln Trp Thr Val Cys Arg Pro Met
500 505 510

Lys Glu Pro Arg Thr Gly Val Gly Ala Ala Val Ile Asp Asn Tyr Leu
515 520 525

Tyr Val Val Gly Gly His Ser Gly Ser Ser Tyr Leu Asn Thr Val Gln
530 535 540

Lys Tyr Asp Pro Ile Ser Asp Thr Trp Leu Asp Ser Ala Gly Met Ile
545 550 555 560

Tyr Cys Arg Cys Asn Phe Gly Leu Thr Ala Leu
565 570

<210> 127

<211> 300

<212> PRT

<213> Homo sapiens

<400> 127

Met Asp His Thr Ser Pro Thr Tyr Met Leu Ala Asn Leu Thr His Leu
1 5 10 15

His Ser Glu Gln Leu Leu Gln Gly Leu Asn Leu Leu Arg Gln His His
20 25 30

Glu Leu Cys Asp Ile Ile Leu Arg Val Gly Asp Val Lys Ile His Ala
35 40 45

His Lys Val Val Leu Ala Ser Val Ser Pro Tyr Phe Lys Ala Met Phe
50 55 60

Thr Gly Asn Leu Ser Glu Lys Glu Asn Ser Glu Val Glu Phe Gln Cys
65 70 75 80

Ile Asp Glu Thr Ala Leu Gln Ala Ile Val Glu Tyr Ala Tyr Thr Gly
85 90 95

Thr Val Phe Ile Ser Gln Asp Thr Val Glu Ser Leu Leu Pro Ala Ala
100 105 110

Asn Leu Leu Gln Ile Lys Leu Val Leu Lys Glu Cys Cys Ala Phe Leu
115 120 125

Glu Ser Gln Leu Asp Pro Gly Asn Cys Ile Gly Ile Ser Arg Phe Ala
130 135 140

Glu Thr Tyr Gly Cys Arg Asp Leu Tyr Leu Ala Ala Thr Lys Tyr Ile
 145 150 155 160

Cys Gln Asn Phe Glu Ala Val Cys Gln Thr Glu Glu Phe Phe Glu Leu
 165 170 175

Thr His Ala Asp Leu Asp Glu Ile Val Ser Asn Asp Cys Leu Asn Val
 180 185 190

Ala Thr Glu Glu Thr Val Phe Tyr Ala Leu Glu Ser Trp Ile Lys Tyr
 195 200 205

Asp Val Gln Glu Arg Gln Lys Tyr Leu Ala Gln Leu Leu Asn Ser Val
 210 215 220

Arg Leu Pro Leu Leu Ser Val Lys Phe Leu Thr Arg Leu Tyr Glu Ala
 225 230 235 240

Asn His Leu Ile Arg Asp Asp Arg Thr Cys Lys His Leu Leu Asn Glu
 245 250 255

Ala Leu Lys Tyr His Phe Met Pro Glu His Arg Leu Ser His Gln Thr
 260 265 270

Val Leu Met Thr Arg Pro Arg Cys Ala Pro Lys Val Leu Cys Ala Val
 275 280 285

Gly Gly Lys Ser Gly Leu Phe Ala Cys Leu Asp Arg
 290 295 300

<210> 128

<211> 300

<212> PRT

<213> Homo sapiens

<400> 128

Met Asp His Thr Ser Pro Thr Tyr Met Pro Ala Asn Leu Thr His Leu
 1 5 10 15

His Ser Glu Gln Leu Leu Gln Gly Leu Asn Leu Leu Arg Gln His His
 20 25 30

Glu Leu Cys Asp Ile Ile Leu Arg Val Gly Asp Val Lys Ile His Ala
 35 40 45

His Lys Val Val Leu Ala Ser Val Ser Pro Tyr Phe Lys Ala Met Phe

<400> 129
Met Asp His Thr Ala Pro Thr Tyr Met Leu Ala Asn Leu Thr His Leu
1 5 10 15

His Ser Glu Gln Leu Leu Gln Gly Leu Asn Leu Leu Arg Gln His His
20 25 30

Glu Leu Cys Asp Ile Ile Leu Arg Val Gly Asp Val Lys Ile His Ala
35 40 45

His Lys Val Val Leu Ala Ser Ile Ser Pro Tyr Phe Lys Ala Met Phe
50 55 60

Thr Gly Asn Leu Ser Glu Lys Glu Asn Ser Glu Val Glu Phe Gln Cys
65 70 75 80

Ile Asp Glu Ala Ala Leu Gln Ala Ile Val Glu Tyr Ala Tyr Thr Gly
85 90 95

Thr Val Phe Ile Ser Gln Asp Thr Val Glu Ser Leu Leu Pro Ala Ala
100 105 110

Asn Leu Leu Gln Ile Lys Leu Val Leu Lys Glu Cys Cys Ala Phe Leu
115 120 125

Glu Ser Gln Leu Asp Pro Gly Asn Cys Ile Gly Ile Ser Arg Phe Ala
130 135 140

Glu Thr Tyr Gly Cys His Asp Leu Tyr Leu Ala Ala Thr Lys Phe Ile
145 150 155 160

Cys Gln Asn Phe Glu Ser Val Cys Gln Thr Glu Glu Phe Phe Glu Leu
165 170 175

Thr His Ala Asp Leu Asp Glu Ile Val Ser Asn Asp Cys Leu Asn Val
180 185 190

Ala Thr Glu Glu Thr Val Phe Tyr Ala Leu Glu Ser Trp Ile Lys Tyr
195 200 205

Asp Val Gln Glu Arg Gln Lys Tyr Leu Ala Gln Leu Leu Asn Ser Val
210 215 220

Arg Leu Pro Leu Leu Ser Val Lys Phe Leu Thr Arg Leu Tyr Glu Ala
 225 230 235 240

Asn His Leu Ile Arg Asp Asp Arg Thr
 245

<210> 130
 <211> 601
 <212> PRT
 <213> Homo sapiens

<400> 130
 Cys Thr Asn Ile Arg Pro Gly Glu Thr Gly Met Asp Val Thr Ser Arg
 1 5 10 15

Cys Thr Leu Gly Asp Pro Asn Lys Leu Pro Glu Gly Val Pro Gln Pro
 20 25 30

Ala Arg Met Pro Tyr Ile Ser Asp Lys His Pro Arg Gln Thr Leu Glu
 35 40 45

Val Ile Asn Leu Leu Arg Lys His Arg Glu Leu Cys Asp Val Val Leu
 50 55 60

Val Val Gly Ala Lys Lys Ile Tyr Ala His Arg Val Ile Leu Ser Ala
 65 70 75 80

Cys Ser Pro Tyr Phe Arg Ala Met Phe Thr Gly Glu Leu Ala Glu Ser
 85 90 95

Arg Gln Thr Glu Val Val Ile Arg Asp Ile Asp Glu Arg Ala Met Glu
 100 105 110

Leu Leu Ile Asp Phe Ala Tyr Thr Ser Gln Ile Thr Val Glu Glu Gly
 115 120 125

Asn Val Gln Thr Leu Leu Pro Ala Ala Cys Leu Leu Gln Leu Ala Glu
 130 135 140

Ile Gln Glu Ala Cys Cys Glu Phe Leu Lys Arg Gln Leu Asp Pro Ser
 145 150 155 160

Asn Cys Leu Gly Ile Arg Ala Phe Ala Asp Thr His Ser Cys Arg Glu
 165 170 175

Leu Leu Arg Ile Ala Asp Lys Phe Thr Gln His Asn Phe Gln Glu Val
 180 185 190

Met	Glu	Ser	Glu	Glu	Phe	Met	Leu	Leu	Pro	Ala	Asn	Gln	Leu	Ile	Asp	195	200	205	
Ile	Ile	Ser	Ser	Asp	Glu	Leu	Asn	Val	Arg	Ser	Glu	Glu	Gln	Val	Phe	210	215	220	
Asn	Ala	Val	Met	Ala	Trp	Val	Lys	Tyr	Ser	Ile	Gln	Glu	Arg	Arg	Pro	225	230	235	240
Gln	Leu	Pro	Gln	Val	Leu	Gln	His	Val	Arg	Leu	Pro	Leu	Leu	Ser	Pro	245	250	255	
Lys	Phe	Leu	Val	Gly	Thr	Val	Gly	Ser	Asp	Pro	Leu	Ile	Lys	Ser	Asp	260	265	270	
Glu	Glu	Cys	Arg	Asp	Leu	Val	Asp	Glu	Ala	Lys	Asn	Tyr	Leu	Leu	Leu	275	280	285	
Pro	Gln	Glu	Arg	Pro	Leu	Met	Gln	Gly	Pro	Arg	Thr	Arg	Pro	Arg	Lys	290	295	300	
Pro	Ile	Arg	Cys	Gly	Glu	Val	Leu	Phe	Ala	Val	Gly	Gly	Trp	Cys	Ser	305	310	315	320
Gly	Asp	Ala	Ile	Ser	Ser	Val	Glu	Arg	Tyr	Asp	Pro	Gln	Thr	Asn	Glu	325	330	335	
Trp	Arg	Met	Val	Ala	Ser	Met	Ser	Lys	Arg	Arg	Cys	Gly	Val	Gly	Val	340	345	350	
Ser	Val	Leu	Asp	Asp	Leu	Leu	Tyr	Ala	Val	Gly	Gly	His	Asp	Gly	Ser	355	360	365	
Ser	Tyr	Leu	Asn	Ser	Val	Glu	Arg	Tyr	Asp	Pro	Lys	Thr	Asn	Gln	Trp	370	375	380	
Ser	Ser	Asp	Val	Ala	Pro	Thr	Ser	Thr	Cys	Arg	Thr	Ser	Val	Gly	Val	385	390	395	400
Ala	Val	Leu	Gly	Gly	Phe	Leu	Tyr	Ala	Val	Gly	Gly	Gln	Asp	Gly	Val	405	410	415	
Ser	Cys	Leu	Asn	Ile	Val	Glu	Arg	Tyr	Asp	Pro	Lys	Glu	Asn	Lys	Trp	420	425	430	
Thr	Arg	Val	Ala	Ser	Met	Ser	Thr	Arg	Arg	Leu	Gly	Val	Ala	Val	Ala	435	440	445	

Val Leu Gly Gly Phe Leu Tyr Ala Val Gly Gly Ser Asp Gly Thr Ser
 450 455 460
 Pro Leu Asn Thr Val Glu Arg Tyr Asn Pro Gln Glu Asn Arg Trp His
 465 470 475 480
 Thr Ile Ala Pro Met Gly Thr Arg Arg Lys His Leu Gly Cys Ala Val
 485 490 495
 Tyr Gln Asp Met Ile Tyr Ala Val Gly Gly Arg Asp Asp Thr Thr Glu
 500 505 510
 Leu Ser Ser Ala Glu Arg Tyr Asn Pro Arg Thr Asn Gln Trp Ser Pro
 515 520 525
 Val Val Ala Met Thr Ser Arg Arg Ser Gly Val Gly Leu Ala Val Val
 530 535 540
 Asn Gly Gln Leu Met Ala Val Gly Gly Phe Asp Gly Thr Thr Tyr Leu
 545 550 555 560
 Lys Thr Ile Glu Val Phe Asp Pro Asp Ala Asn Thr Trp Arg Leu Tyr
 565 570 575
 Gly Gly Met Asn Tyr Arg Arg Leu Gly Gly Gly Val Gly Val Ile Lys
 580 585 590
 Met Thr His Cys Glu Ser His Ile Trp
 595 600

<210> 131

<211> 114

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: BTB/POZ
domain sequence

<400> 131

Ser Ser Leu Leu Lys Ser Leu Asn Glu Leu Arg Glu Asn Gly Glu Phe
 1 5 10 15

Cys Asp Val Thr Leu Val Val Gly Gly Lys Glu Phe Pro Ala His Lys
 20 25 30

Ala Val Leu Ala Ala Cys Ser Pro Tyr Phe Lys Ala Leu Phe Ser Gly
 35 40 45

Asn Phe Lys Glu Ser Asp Ser Ser Glu Ile Thr Leu Asp Asp Val Ser
 50 55 60

Pro Glu Asp Phe Glu Ala Leu Leu Glu Phe Ile Tyr Thr Gly Glu Leu
 65 70 75 80

Ile Ile Thr Glu Glu Asn Val Glu Glu Leu Leu Glu Leu Ala Asp Lys
 85 90 95

Leu Gln Ile Pro Ser Leu Val Asp Lys Cys Glu Glu Phe Leu Ile Lys
 100 105 110

Asn Leu

<210> 132

<211> 96

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: BTB,
 Broad-Complex domain sequence

<400> 132

Asp Val Thr Leu Asn Val Gly Gly Lys Lys Phe His Ala His Lys Ala
 1 5 10 15

Val Leu Ala Ala His Ser Pro Tyr Phe Lys Ala Leu Phe Ser Ser Asp
 20 25 30

Phe Lys Glu Ser Asp Lys Ser Glu Ile Tyr Leu Phe Asp Val Ser Pro
 35 40 45

Glu Asp Phe Arg Ala Leu Leu Asn Phe Leu Tyr Thr Gly Lys Leu Asp
 50 55 60

Ile Pro Glu Glu Asn Val Glu Glu Leu Leu Glu Leu Ala Asp Tyr Leu
 65 70 75 80

Gln Ile Pro Gly Leu Val Glu Leu Cys Glu Glu Phe Leu Leu Lys Asn
 85 90 95

<210> 133
<211> 46
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Kelch domain
sequence

<400> 133
Ile Tyr Val Ile Gly Gly Phe Asn Gly Gly Gln Arg Leu Lys Ser Val
1 5 10 15
Glu Val Tyr Asp Pro Glu Thr Asn Lys Trp Thr Pro Leu Pro Ser Met
20 25 30
Pro Thr Pro Arg Ser Gly His Gly Val Ala Val Ile Asn Gly
35 40 45

<210> 134
<211> 508
<212> PRT
<213> Homo sapiens

<400> 134
Met Ala Lys Ser Asn Gly Glu Asn Gly Pro Arg Ala Pro Ala Ala Gly
1 5 10 15
Glu Ser Leu Ser Gly Thr Arg Glu Ser Leu Ala Gln Gly Pro Asp Ala
20 25 30
Ala Thr Thr Asp Glu Leu Ser Ser Leu Gly Ser Asp Ser Glu Ala Asn
35 40 45
Gly Phe Ala Glu Arg Arg Ile Asp Lys Phe Gly Phe Ile Val Gly Ser
50 55 60
Gln Gly Ala Glu Gly Ala Leu Glu Glu Val Pro Leu Glu Val Leu Arg
65 70 75 80
Gln Arg Glu Ser Lys Trp Leu Asp Met Leu Asn Asn Trp Asp Lys Trp
85 90 95
Met Ala Lys Lys His Lys Lys Ile Arg Leu Arg Cys Gln Lys Gly Ile

100	105	110
Pro Pro Ser Leu Arg Gly Arg Ala Trp Gln Tyr Leu Ser Gly Gly Lys		
115	120	125
Val Lys Leu Gln Gln Asn Pro Gly Lys Phe Asp Glu Leu Asp Met Ser		
130	135	140
Pro Gly Asp Pro Lys Trp Leu Asp Val Ile Glu Arg Asp Leu His Arg		
145	150	155
Gln Phe Pro Phe His Glu Met Phe Val Ser Arg Gly Gly His Gly Gln		
165	170	175
Gln Asp Leu Phe Arg Val Leu Lys Ala Tyr Thr Leu Tyr Arg Pro Glu		
180	185	190
Glu Gly Tyr Cys Gln Ala Gln Ala Pro Ile Ala Ala Val Leu Leu Met		
195	200	205
His Met Pro Ala Glu Gln Ala Phe Trp Cys Leu Val Gln Ile Cys Glu		
210	215	220
Lys Tyr Leu Pro Gly Tyr Tyr Ser Glu Lys Leu Glu Ala Ile Gln Leu		
225	230	235
Asp Gly Glu Ile Leu Phe Ser Leu Leu Gln Lys Val Ser Pro Val Ala		
245	250	255
His Lys His Leu Ser Arg Gln Lys Ile Asp Pro Leu Leu Tyr Met Thr		
260	265	270
Glu Trp Phe Met Cys Ala Phe Ser Arg Thr Leu Pro Trp Ser Ser Val		
275	280	285
Leu Arg Val Trp Asp Met Phe Phe Cys Glu Gly Val Lys Ile Ile Phe		
290	295	300
Arg Val Gly Leu Val Leu Leu Lys His Ala Leu Gly Ser Pro Glu Lys		
305	310	315
Val Lys Ala Cys Gln Gly Gln Tyr Glu Thr Ile Glu Arg Leu Arg Ser		
325	330	335
Leu Ser Pro Lys Ile Met Gln Glu Ala Phe Leu Val Gln Glu Val Val		
340	345	350
Glu Leu Pro Val Thr Glu Arg Gln Ile Glu Arg Glu His Leu Ile Gln		

355		360		365
Leu Arg Arg Trp Gln Glu Thr Arg Gly Glu Leu Gln Cys Arg Ser Pro				
370		375		380
Pro Arg Leu His Gly Ala Lys Ala Ile Leu Asp Ala Glu Pro Gly Pro				
385		390		395 400
Arg Pro Ala Leu Gln Pro Ser Pro Ser Ile Arg Leu Pro Leu Asp Ala				
	405		410	415
Pro Leu Pro Gly Ser Lys Ala Lys Pro Lys Pro Pro Lys Gln Ala Gln				
	420		425	430
Lys Glu Gln Arg Lys Gln Met Lys Gly Arg Gly Gln Leu Glu Lys Pro				
	435		440	445
Pro Ala Pro Asn Gln Ala Met Val Val Ala Ala Ala Gly Asp Ala Cys				
	450		455	460
Pro Pro Gln His Val Pro Pro Lys Asp Ser Ala Pro Lys Asp Ser Ala				
	465		470	475 480
Pro Gln Asp Leu Ala Pro Gln Val Ser Ala His His Arg Ser Gln Glu				
	485		490	495
Ser Leu Thr Ser Gln Glu Ser Glu Asp Thr Tyr Leu				
	500		505	

<210> 135

<211> 500

<212> PRT

<213> Mus musculus

<400> 135

Met Ala Lys Ser Ser Arg Glu Asn Gly Pro Arg Glu Pro Ala Ala Gly				
1		5		10 15
Gly Ser Leu Ser Gly Thr Arg Glu Ser Leu Ala Gln Gly Pro Asp Ala				
	20		25	30
Ala Thr Ala Asp Glu Leu Ser Ser Leu Gly Ser Asp Ser Glu Ala Asn				
	35		40	45
Gly Phe Ala Glu Arg Arg Ile Asp Lys Phe Gly Phe Ile Val Gly Ser				
	50		55	60

Gln Gly Ala Glu Gly Ala Leu Glu Glu Val Pro Leu Glu Val Leu Arg
 65 70 75 80
 Gln Arg Glu Ser Lys Trp Leu Asp Met Leu Asn Asn Trp Asp Lys Trp
 85 90 95
 Met Ala Lys Lys His Lys Lys Ile Arg Leu Arg Cys Gln Lys Gly Ile
 100 105 110
 Pro Pro Ser Leu Arg Gly Arg Ala Trp Gln Tyr Leu Ser Gly Gly Lys
 115 120 125
 Val Lys Leu Gln Gln Asn Pro Gly Lys Phe Asp Glu Leu Asp Met Ser
 130 135 140
 Pro Gly Asp Pro Lys Trp Leu Asp Val Ile Glu Arg Asp Leu His Arg
 145 150 155 160
 Gln Phe Pro Phe His Glu Met Phe Val Ser Arg Gly Gly His Gly Gln
 165 170 175
 Gln Asp Leu Phe Arg Val Leu Lys Ala Tyr Thr Leu Tyr Arg Pro Glu
 180 185 190
 Glu Gly Tyr Cys Gln Ala Gln Ala Pro Ile Ala Ala Val Leu Leu Met
 195 200 205
 His Met Pro Ala Glu Gln Ala Phe Trp Cys Leu Val Gln Val Cys Glu
 210 215 220
 Lys Tyr Leu Pro Gly Tyr Tyr Ser Glu Lys Leu Glu Ala Ile Gln Leu
 225 230 235 240
 Asp Gly Glu Ile Leu Phe Ser Leu Leu Gln Lys Val Ser Pro Val Ala
 245 250 255
 His Lys His Leu Ser Arg Gln Lys Ile Asp Pro Leu Leu Tyr Met Thr
 260 265 270
 Glu Trp Phe Met Cys Ala Phe Ala Arg Thr Leu Pro Trp Ser Ser Val
 275 280 285
 Leu Arg Val Trp Asp Met Phe Phe Cys Glu Gly Val Lys Ile Ile Phe
 290 295 300
 Arg Val Gly Leu Val Leu Leu Lys His Ala Leu Gly Ser Pro Glu Lys
 305 310 315 320

Leu Lys Ala Cys Gln Gly Gln Tyr Glu Thr Ile Glu Gln Leu Arg Ser
 325 330 335

Leu Ser Pro Lys Ile Met Gln Glu Ala Phe Leu Val Gln Glu Val Ile
 340 345 350

Glu Leu Pro Val Thr Glu Arg Gln Ile Glu Arg Glu His Leu Ile Gln
 355 360 365

Leu Arg Arg Trp Gln Glu Thr Arg Gly Glu Leu Glu Cys Arg Ser Leu
 370 375 380

Pro Arg Met His Gly Ala Lys Ala Ile Leu Asp Ala Glu Pro Gly Pro
 385 390 395 400

Arg Pro Ala Leu Gln Pro Ser Pro Ser Ile Arg Leu Pro Pro Asp Ala
 405 410 415

Ala Leu Leu Ser Ser Lys Ala Lys Pro His Lys Gln Ala Gln Lys Glu
 420 425 430

Gln Lys Arg Thr Lys Thr Ser Ala Gln Leu Asp Lys Ser Pro Gly Leu
 435 440 445

Ser Gln Ala Thr Val Val Thr Ala Ala Gly Asp Ala Cys Pro Pro Gln
 450 455 460

Gly Val Ser Pro Lys Asp Pro Val Pro Gln Asp Pro Thr Pro Gln Asn
 465 470 475 480

Leu Ala Cys His His Ser Gln Glu Ser Leu Thr Ser Gln Glu Ser Glu
 485 490 495

Asp Thr Tyr Leu
 500

<210> 136

<211> 438

<212> PRT

<213> Homo sapiens

<400> 136

Leu Glu Glu Val Pro Leu Glu Val Leu Arg Gln Arg Glu Ser Lys Trp
 1 5 10 15

Leu Asp Met Leu Asn Asn Trp Asp Lys Trp Met Ala Lys Lys His Lys
 20 25 30

Lys Ile Arg Leu Arg Cys Gln Lys Gly Ile Pro Pro Ser Leu Arg Gly
 35 40 45
 Arg Ala Trp Gln Tyr Leu Ser Gly Gly Lys Val Lys Leu Gln Gln Asn
 50 55 60
 Pro Gly Lys Phe Asp Glu Leu Asp Met Ser Pro Gly Asp Pro Lys Trp
 65 70 75 80
 Leu Asp Val Ile Glu Arg Asp Leu His Arg Gln Phe Pro Phe His Glu
 85 90 95
 Met Phe Val Ser Arg Gly Gly His Gly Gln Gln Asp Leu Phe Arg Val
 100 105 110
 Leu Lys Ala Tyr Thr Leu Tyr Arg Pro Glu Glu Gly Tyr Cys Gln Ala
 115 120 125
 Gln Ala Pro Ile Ala Ala Val Leu Leu Met His Met Pro Ala Glu Gln
 130 135 140
 Ala Phe Trp Cys Leu Val Gln Ile Cys Glu Lys Tyr Leu Pro Gly Tyr
 145 150 155 160
 Tyr Ser Glu Lys Leu Glu Ala Ile Gln Leu Asp Gly Glu Ile Leu Phe
 165 170 175
 Ser Leu Leu Gln Lys Val Ser Pro Val Ala His Lys His Leu Ser Arg
 180 185 190
 Gln Lys Ile Asp Pro Leu Leu Tyr Met Thr Glu Trp Phe Met Cys Ala
 195 200 205
 Phe Ser Arg Thr Leu Pro Trp Ser Ser Val Leu Arg Val Trp Asp Met
 210 215 220
 Phe Phe Cys Glu Gly Val Lys Ile Ile Phe Arg Val Gly Leu Val Leu
 225 230 235 240
 Leu Lys His Ala Leu Gly Ser Pro Glu Lys Val Lys Ala Cys Gln Gly
 245 250 255
 Gln Tyr Glu Thr Ile Glu Arg Leu Arg Ser Leu Ser Pro Lys Ile Met
 260 265 270
 Gln Glu Ala Phe Leu Val Gln Glu Val Val Glu Leu Pro Val Thr Glu
 275 280 285

Arg Gln Ile Glu Arg Glu His Leu Ile Gln Leu Arg Arg Trp Gln Glu
290 295 300

Thr Arg Gly Glu Leu Gln Cys Arg Ser Pro Pro Arg Leu His Gly Ala
305 310 315 320

Lys Ala Ile Leu Asp Ala Glu Pro Gly Pro Arg Pro Ala Leu Gln Pro
325 330 335

Ser Pro Ser Ile Arg Leu Pro Leu Asp Ala Pro Leu Pro Gly Ser Lys
340 345 350

Ala Lys Pro Lys Pro Pro Lys Gln Ala Gln Lys Glu Gln Arg Lys Gln
355 360 365

Met Lys Gly Arg Gly Gln Leu Glu Lys Pro Pro Ala Pro Asn Gln Ala
370 375 380

Met Val Val Ala Ala Ala Gly Asp Ala Cys Pro Pro Gln His Val Pro
385 390 395 400

Pro Lys Asp Ser Ala Pro Lys Asp Ser Ala Pro Gln Asp Leu Ala Pro
405 410 415

Gln Val Ser Ala His His Arg Ser Gln Glu Ser Leu Thr Ser Gln Glu
420 425 430

Ser Glu Asp Thr Tyr Leu
435

<210> 137

<211> 533

<212> PRT

<213> Homo sapiens

<400> 137

Met Ser Gly Thr Leu Glu Ser Leu Ala Asp Asp Val Ser Ser Met Gly
1 5 10 15

Ser Asp Ser Glu Ile Asn Gly Leu Ala Leu Arg Lys Thr Asp Lys Tyr
20 25 30

Gly Phe Leu Gly Gly Ser Gln Tyr Ser Gly Ser Leu Glu Ser Ser Ile
35 40 45

Pro Val Asp Val Ala Arg Gln Arg Glu Leu Lys Trp Leu Asp Met Phe

<213> Mus musculus

<400> 138

Met Ser Gly Thr Leu Glu Ser Leu Pro Asp Asp Val Ser Ser Met Gly
1 5 10 15
Ser Asp Ser Glu Ile Asn Gly Met Ala Leu Arg Lys Thr Asp Lys Tyr
20 25 30
Gly Phe Leu Gly Gly Ser Gln Tyr Ser Gly Ser Leu Glu Ser Ser Ile
35 40 45
Pro Val Asp Val Ala Arg Gln Arg Glu Leu Lys Trp Leu Glu Met Phe
50 55 60
Ser Asn Trp Asp Lys Trp Leu Ser Arg Arg Phe Gln Lys Val Lys Leu
65 70 75 80
Arg Cys Arg Lys Gly Ile Pro Ser Ser Leu Arg Ala Lys Ala Trp Gln
85 90 95
Tyr Leu Ser Asn Ser Lys Glu Leu Leu Glu Gln Asn Pro Gly Lys Phe
100 105 110
Glu Glu Leu Glu Arg Ala Ala Gly Asp Pro Lys Trp Leu Asp Val Ile
115 120 125
Glu Lys Asp Leu His Arg Gln Phe Pro Phe His Glu Met Phe Ala Ala
130 135 140
Arg Gly Gly His Gly Gln Gln Asp Leu Tyr Arg Ile Leu Lys Ala Tyr
145 150 155 160
Thr Ile Tyr Arg Pro Asp Glu Gly Tyr Cys Gln Ala Gln Ala Pro Val
165 170 175
Ala Ala Val Leu Leu Met His Met Pro Ala Glu Gln Ala Phe Trp Cys
180 185 190
Leu Val Gln Ile Cys Asp Lys Tyr Leu Pro Gly Tyr Tyr Ser Ala Gly
195 200 205
Leu Glu Ala Ile Gln Leu Asp Gly Glu Ile Phe Phe Ala Leu Leu Arg
210 215 220
Arg Val Ser Pro Leu Ala His Arg His Leu Arg Arg Gln Arg Ile Asp
225 230 235 240

Pro Val Leu Tyr Met Thr Glu Trp Phe Met Cys Ile Phe Ala Arg Thr
 245 250 255

Leu Pro Trp Ala Ser Val Leu Arg Val Trp Asp Met Phe Phe Cys Glu
 260 265 270

Gly Val Lys Ile Ile Phe Arg Val Ala Leu Val Leu Leu Arg His Thr
 275 280 285

Leu Gly Ser Val Glu Lys Leu Arg Ser Cys Gln Gly Met Tyr Glu Thr
 290 295 300

Met Glu Gln Leu Arg Asn Leu Pro Gln Gln Cys Met Gln Glu Asp Phe
 305 310 315 320

Leu Val His Glu Val Thr Asn Leu Pro Val Thr Glu Ala Trp Ile Glu
 325 330 335

Arg Glu Asn Ala Ala Gln Leu Lys Lys Trp Arg Glu Thr Arg Gly Glu
 340 345 350

Leu Gln Tyr Arg Pro Ser Arg Arg Leu His Gly Ser Arg Ala Ile His
 355 360 365

Glu Glu Arg Arg Arg Gln Gln Pro Pro Leu Gly Pro Ser Ser Ser Leu
 370 375 380

Leu Ser Leu Pro Ser Leu Lys Ser Arg Gly Ser Arg Ala Val Gly Gly
 385 390 395 400

Ala Pro Ser Pro Pro Pro Pro Val Arg Arg Ala Ser Ala Gly Pro Val
 405 410 415

Pro Gly Ala Val Val Ile Ala Glu Gly Leu His Pro Ser Leu Pro Ser
 420 425 430

Pro Thr Gly Ser Ser Thr Pro Leu Gly Thr Ser Lys Glu Ile Arg Arg
 435 440 445

Gln Glu Lys Glu Arg Gln Lys Gln Glu Lys Asp Arg Glu Lys Glu Arg
 450 455 460

Gln Arg Gln Glu Lys Glu Arg Glu Arg Gln Glu Lys Glu Arg Gln Lys
 465 470 475 480

Trp Glu Lys Glu Gln Glu Lys Glu Gln Arg Lys Gln Glu Lys Glu Arg
 485 490 495

Gln Lys Leu Glu Lys Lys Gly Gln Gly Arg Lys Leu Ser Leu Arg Arg
 500 505 510

Arg Ala Asp Gly Pro Pro Ala Ser His Asp Gly Gly Asp Arg Ser Ala
 515 520 525

Ala Glu Ala Arg Gln Asp Ala Tyr Phe
 530 535

<210> 139

<211> 209

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Domain in
 Tre-2 sequence

<400> 139

Val Arg Lys Gly Ile Pro Pro Ser Leu Arg Gly Glu Val Trp Lys Leu
 1 5 10 15

Leu Leu Asn Ala Gln Pro Lys Asn Leu Ser Asn Asp Lys Asp Leu Tyr
 20 25 30

Ser Arg Leu Leu Arg Gln Thr Ala Pro Lys Lys Lys Ser Thr Leu Lys
 35 40 45

Gln Ile Glu Lys Asp Leu Pro Arg Thr Phe Pro Glu Leu Pro Phe Phe
 50 55 60

Gln Phe Lys Gly Pro Gly Gln Glu Ser Leu Arg Arg Val Leu Lys Ala
 65 70 75 80

Tyr Ser Ile Tyr Asn Pro Glu Val Gly Tyr Cys Gln Gly Met Asn Phe
 85 90 95

Leu Ala Ala Pro Leu Leu Leu Val Met Pro Asp Glu Glu Asp Ala Phe
 100 105 110

Trp Cys Leu Val Lys Leu Met Glu Arg Tyr Leu Pro Asn Phe Tyr Leu
 115 120 125

Pro Asp Leu Ser Gly Leu His Ala Asp Gln Leu Val Leu Asp Ser Leu
 130 135 140

Leu Gln Glu Tyr Leu Pro Asp Leu Tyr Lys His Leu Gln Glu Lys Gly

145	150	155	160
Ile Asp Pro Ser Leu Tyr Ala Leu Arg Trp Phe Leu Thr Leu Phe Ala			
165	170	175	
Arg Glu Leu Pro Leu Glu Ile Val Leu Arg Ile Trp Asp Val Leu Phe			
180	185	190	
Ala Glu Gly Ser Glu Phe Leu Phe Arg Ile Ala Leu Ala Ile Leu Lys			
195	200	205	

Leu

<210> 140
 <211> 207
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: TBC domain
 sequence

<400> 140
 Gly Gly Val Pro Ser Ser Leu Arg Gly Tyr Val Trp Lys Leu Leu Leu
 1 5 10 15
 Gly Ala Gln Glu Leu Asn Asn Asp Lys Asp Glu Tyr Ile Glu Leu Leu
 20 25 30
 Asn Lys His Lys Pro Glu Thr Val Gln Asp Gln Leu Asp Gln Ile Glu
 35 40 45
 Lys Asp Leu Ser Arg Thr Phe Pro Asp Asp Ile Phe Phe His Ser Asn
 50 55 60
 Glu Pro Pro Ser Ile Ala Gln Leu Arg Arg Leu Leu Arg Ala Tyr Ser
 65 70 75 80
 Trp Lys Asn Pro Asp Leu Gly Tyr Val Gln Gly Met Asn Asp Ile Leu
 85 90 95
 Ser Pro Leu Leu Leu Phe Leu Lys Asp Glu Glu Gln Ala Phe Trp Cys
 100 105 110
 Phe Thr Lys Leu Met Asp Asn Tyr Leu Pro Gln Tyr Phe Thr Asn Asp
 115 120 125

Leu Ser Gly Ser Asn Glu Asp Leu Arg Val Leu Asp Ser Leu Val Lys
 130 135 140

Glu Ser Leu Pro Glu Leu Tyr Ser His Leu Lys Lys Gln Gly Ser Thr
 145 150 155 160

Leu Leu Ile Phe Ala Phe Pro Trp Phe Leu Thr Leu Phe Ala Arg Glu
 165 170 175

Leu Pro Leu Glu Ile Val Leu Arg Ile Trp Asp Met Leu Phe Thr Tyr
 180 185 190

Gly Ser His Phe Leu Ile Phe Val Ala Leu Ala Ile Leu Lys Leu
 195 200 205

<210> 141

<211> 558

<212> PRT

<213> Homo sapiens

<400> 141

Ala Val Arg Ala Asp Leu Pro Arg Pro Glu Val Ala Pro Leu Arg Gly
 1 5 10 15

Leu Pro Arg Pro Lys Phe Ser Ala Pro Arg Gly Leu Arg Ala Pro Arg
 20 25 30

Ser Pro Arg Pro Glu Val Ser Ala Arg Thr Met Arg Leu Gly Ser Pro
 35 40 45

Gly Leu Leu Phe Leu Leu Phe Ser Ser Leu Arg Ala Asp Thr Gln Glu
 50 55 60

Lys Glu Val Arg Ala Met Val Gly Ser Asp Val Glu Leu Ser Cys Ala
 65 70 75 80

Cys Pro Glu Gly Ser Arg Phe Asp Leu Asn Asp Val Tyr Val Tyr Trp
 85 90 95

Gln Thr Ser Glu Ser Lys Thr Val Val Thr Tyr His Ile Pro Gln Asn
 100 105 110

Ser Ser Leu Glu Asn Val Asp Ser Arg Tyr Arg Asn Arg Ala Leu Met
 115 120 125

Ser Pro Ala Gly Met Leu Arg Gly Asp Phe Ser Leu Arg Leu Phe Asn

130 135 140
 Val Thr Pro Gln Asp Glu Gln Lys Phe His Cys Leu Val Leu Ser Gln
 145 150 155 160
 Ser Leu Gly Phe Gln Glu Val Leu Ser Val Glu Val Thr Leu His Val
 165 170 175
 Ala Ala Asn Phe Ser Val Pro Val Val Ser Ala Pro His Ser Pro Ser
 180 185 190
 Gln Asp Glu Leu Thr Phe Thr Cys Thr Ser Ile Asn Gly Tyr Pro Arg
 195 200 205
 Pro Asn Val Tyr Trp Ile Asn Lys Thr Asp Asn Ser Leu Leu Asp Gln
 210 215 220
 Ala Leu Gln Asn Asp Thr Val Phe Leu Asn Met Arg Gly Leu Tyr Asp
 225 230 235 240
 Val Val Ser Val Leu Arg Ile Ala Arg Thr Pro Ser Val Asn Ile Gly
 245 250 255
 Cys Cys Ile Glu Asn Val Leu Leu Gln Gln Asn Leu Thr Val Gly Ser
 260 265 270
 Gln Thr Gly Asn Asp Ile Gly Glu Arg Asp Lys Ile Thr Glu Asn Pro
 275 280 285
 Val Ser Thr Gly Glu Lys Asn Ala Ala Thr Trp Ser Ile Leu Ala Val
 290 295 300
 Leu Cys Leu Leu Val Val Val Ala Val Ala Ile Gly Trp Val Cys Arg
 305 310 315 320
 Asp Arg Cys Leu Gln His Ser Tyr Ala Gly Ala Trp Ala Val Ser Pro
 325 330 335
 Glu Thr Glu Leu Thr Gly Glu Phe Ala Val Gly Ser Ser Arg Phe Trp
 340 345 350
 Gly Ala Gln Gly Arg Leu Gly Cys Gln Leu Ser Phe Arg Val Ser Lys
 355 360 365
 Asn Phe Gln Lys Ala Lys Val Pro Cys Leu Glu Gln Leu Leu Phe Leu
 370 375 380
 Glu Thr Gln Arg Ser Pro Arg Trp Cys Ala Arg His Phe Leu Gln Pro

Asp Val Tyr Val Tyr Trp Gln Thr Ser Glu Ser Lys Thr Val Val Thr
 50 55 60

Tyr His Ile Pro Gln Asn Ser Ser Leu Glu Asn Val Asp Ser Arg Tyr
 65 70 75 80

Arg Asn Arg Ala Leu Met Ser Pro Ala Gly Met Leu Arg Gly Asp Phe
 85 90 95

Ser Leu Arg Leu Phe Asn Val Thr Pro Gln Asp Glu Gln Lys Phe His
 100 105 110

Cys Leu Val Leu Ser Gln Ser Leu Gly Phe Gln Glu Val Leu Ser Val
 115 120 125

Glu Val Thr Leu His Val Ala Ala Asn Phe Ser Val Pro Val Val Ser
 130 135 140

Ala Pro His Ser Pro Ser Gln Asp Glu Leu Thr Phe Thr Cys Thr Ser
 145 150 155 160

Ile Asn Gly Tyr Pro Arg Pro Asn Val Tyr Trp Ile Asn Lys Thr Asp
 165 170 175

Asn Ser Leu Leu Asp Gln Ala Leu Gln Asn Asp Thr Val Phe Leu Asn
 180 185 190

Met Arg Gly Leu Tyr Asp Val Val Ser Val Leu Arg Ile Ala Arg Thr
 195 200 205

Pro Ser Val Asn Ile Gly Cys Cys Ile Glu Asn Val Leu Leu Gln Gln
 210 215 220

Asn Leu Thr Val Gly Ser Gln Thr Gly Asn Asp Ile Gly Glu Arg Asp
 225 230 235 240

Lys Ile Thr Glu Asn Pro Val Ser Thr Gly Glu Lys Asn Ala Ala Thr
 245 250 255

Trp Ser Ile Leu Ala Val Leu Cys Leu Leu Val Val Val Ala Val Ala
 260 265 270

Ile Gly Trp Val Cys Arg Asp Arg Cys Leu Gln His Ser Tyr Ala Gly
 275 280 285

Ala Trp Ala Val Ser Pro Glu Thr Glu Leu Thr Gly His Val
 290 295 300

Asn Leu Thr Val Gly Ser Gln Thr Gly Asn Asp Ile Gly Glu Arg Asp
 225 230 235 240

Lys Ile Thr Glu Asn Pro Val Ser Thr Gly Glu Lys Asn Ala Ala Thr
 245 250 255

Trp Ser Ile Leu Ala Val Leu Cys Leu Leu Val Val Val Ala Val Ala
 260 265 270

Ile Gly Trp Val Cys Arg Asp Arg Cys Leu Gln His Ser Tyr Ala Gly
 275 280 285

Ala Trp Ala Val Ser Pro Glu Thr Glu Leu Thr Glu Ser Trp Asn Leu
 290 295 300

Leu Leu Leu Leu Ser
 305

<210> 144

<211> 322

<212> PRT

<213> Mus musculus

<400> 144

Met Gln Leu Lys Cys Pro Cys Phe Val Ser Leu Gly Thr Arg Gln Pro
 1 5 10 15

Val Trp Lys Lys Leu His Val Ser Ser Gly Phe Phe Ser Gly Leu Gly
 20 25 30

Leu Phe Leu Leu Leu Leu Ser Ser Leu Cys Ala Ala Ser Ala Glu Thr
 35 40 45

Glu Val Gly Ala Met Val Gly Ser Asn Val Val Leu Ser Cys Ile Asp
 50 55 60

Pro His Arg Arg His Phe Asn Leu Ser Gly Leu Tyr Val Tyr Trp Gln
 65 70 75 80

Ile Glu Asn Pro Glu Val Ser Val Thr Tyr Tyr Leu Pro Tyr Lys Ser
 85 90 95

Pro Gly Ile Asn Val Asp Ser Ser Tyr Lys Asn Arg Gly His Leu Ser
 100 105 110

Leu Asp Ser Met Lys Gln Gly Asn Phe Ser Leu Tyr Leu Lys Asn Val

Met Gln Leu Lys Cys Pro Cys Phe Val Ser Leu Gly Thr Arg Gln Pro
 1 5 10 15
 Val Trp Lys Lys Leu His Val Ser Ser Gly Phe Phe Ser Gly Leu Gly
 20 25 30
 Leu Phe Leu Leu Leu Leu Ser Ser Leu Cys Ala Ala Ser Ala Glu Thr
 35 40 45
 Glu Val Gly Ala Met Val Gly Ser Asn Val Val Leu Ser Cys Ile Asp
 50 55 60
 Pro His Arg Arg His Phe Asn Leu Ser Gly Leu Tyr Val Tyr Trp Gln
 65 70 75 80
 Ile Glu Asn Pro Glu Val Ser Val Thr Tyr Tyr Leu Pro Tyr Lys Ser
 85 90 95
 Pro Gly Ile Asn Val Asp Ser Ser Tyr Lys Asn Arg Gly His Leu Ser
 100 105 110
 Leu Asp Ser Met Lys Gln Gly Asn Phe Ser Leu Tyr Leu Lys Asn Val
 115 120 125
 Thr Pro Gln Asp Thr Gln Glu Phe Thr Cys Arg Val Phe Met Asn Thr
 130 135 140
 Ala Thr Glu Leu Val Lys Ile Leu Glu Glu Val Val Arg Leu Arg Val
 145 150 155 160
 Ala Ala Asn Phe Ser Thr Pro Val Ile Ser Thr Ser Asp Ser Ser Asn
 165 170 175
 Pro Gly Gln Glu Arg Thr Tyr Thr Cys Met Ser Lys Asn Gly Tyr Pro
 180 185 190
 Glu Pro Asn Leu Tyr Trp Ile Asn Thr Thr Asp Asn Ser Leu Ile Asp
 195 200 205
 Thr Ala Leu Gln Asn Asn Thr Val Tyr Leu Asn Lys Leu Gly Leu Tyr
 210 215 220
 Asp Val Ile Ser Thr Leu Arg Leu Pro Trp Thr Ser His Gly Asp Val
 225 230 235 240
 Leu Cys Cys Val Glu Asn Val Ala Leu His Gln Asn Ile Thr Ser Ile
 245 250 255

Ser Gln Ala Glu Ser Phe Thr Gly Asn Asn Thr Lys Asn Pro Gln Glu
 260 270

Thr His Asn Asn Glu Leu Lys Val Leu Val Pro Val Leu Ala Val Leu
 275 280 285

Ala Ala Ala Ala Phe Val Ser Phe Ile Ile Tyr Arg Arg Thr Arg Pro
 290 295 300

His Arg Ser Tyr Thr Gly Pro Lys Thr Val Gln Leu Glu Leu Thr Asp
 305 310 315 320

Thr Trp Ala Pro Val Pro Tyr Gln Asp Tyr Leu Ile Pro Arg Tyr Leu
 325 330 335

Met Ser Pro Cys Leu Lys Thr Arg Gly Leu Pro
 340 345

<210> 146

<211> 80

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: IGv,
 Immunoglobulin V-Type domain sequence

<400> 146

Ser Val Thr Leu Ser Cys Lys Ala Ser Gly Phe Thr Phe Ser Ser Tyr
 1 5 10 15

Tyr Val Ser Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Leu
 20 25 30

Gly Tyr Ile Gly Ser Asp Val Ser Tyr Ser Glu Ala Ser Tyr Lys Gly
 35 40 45

Arg Val Thr Ile Ser Lys Asp Asn Ser Lys Asn Asp Val Ser Leu Thr
 50 55 60

Ile Ser Asn Leu Arg Val Glu Asp Thr Gly Thr Tyr Tyr Cys Ala Val
 65 70 75 80

<400> 147

Met Arg Ser Ala Thr Ala Arg Pro Arg Arg Arg Ala Arg Arg Glu Gly
1 5 10 15

Glu Gly Gly Arg His Arg Gly Pro Pro Pro Asp Pro Ala Arg Ser Ser
20 25 30

Tyr Pro Thr Arg Val Gln Pro Arg Arg Pro Thr Lys Gly Thr His Arg
35 40 45

Arg Arg Pro Arg Leu Arg Asp Pro Phe Asp Phe Ala Arg Tyr Leu Arg
50 55 60

Ala Lys Asp Gln Arg Arg Phe Pro Leu Leu Ile Asn Gln Pro His Lys
65 70 75 80

Cys Arg Gly Asp Gly Ala Pro Gly Gly Arg Pro Asp Leu Leu Ile Ala
85 90 95

Val Lys Ser Val Ala Glu Asp Phe Glu Arg Arg Gln Ala Val Arg Gln
100 105 110

Thr Trp Gly Ala Glu Gly Arg Val Gln Gly Ala Leu Val Arg Arg Val
115 120 125

Phe Leu Leu Gly Val Pro Arg Gly Ala Gly Ser Gly Gly Ala Asp Glu
130 135 140

Val Gly Glu Gly Ala Arg Thr His Trp Arg Ala Leu Leu Arg Ala Glu
145 150 155 160

Ser Leu Ala Tyr Ala Asp Ile Leu Leu Trp Ala Phe Asp Asp Thr Phe
165 170 175

Phe Asn Leu Thr Leu Lys Glu Ile His Phe Leu Ala Trp Ala Ser Ala
180 185 190

Phe Cys Pro Asp Val Arg Phe Val Phe Lys Gly Asp Ala Asp Val Phe
195 200 205

Val Asn Val Gly Asn Leu Leu Glu Phe Leu Ala Pro Arg Asp Pro Ala
210 215 220

Gln Asp Leu Leu Ala Gly Asp Val Ile Val His Ala Arg Pro Ile Arg
 225 230 235 240

Thr Arg Ala Ser Lys Tyr Tyr Ile Pro Glu Ala Val Tyr Gly Leu Pro
 245 250 255

Ala Tyr Pro Ala Tyr Ala Gly Gly Gly Gly Phe Val Leu Ser Gly Ala
 260 265 270

Thr Leu His Arg Leu Ala Gly Ala Cys Ala Gln Val Glu Leu Phe Pro
 275 280 285

Ile Asp Asp Val Phe Leu Gly Met Cys Leu Gln Arg Leu Arg Leu Thr
 290 295 300

Pro Glu Pro His Pro Ala Phe Arg Thr Phe Gly Ile Pro Gln Pro Ser
 305 310 315 320

Ala Ala Pro His Leu Ser Thr Phe Asp Pro Cys Phe Tyr Arg Glu Leu
 325 330 335

Val Val Val His Gly Leu Ser Ala Ala Asp Ile Trp Leu Met Trp Arg
 340 345 350

Leu Leu His Gly Pro His Gly Pro Ala Cys Ala His Pro Gln Pro Val
 355 360 365

Ala Ala Gly Pro Phe Gln Trp Asp Ser
 370 375

<210> 148

<211> 399

<212> PRT

<213> Mus musculus

<400> 148

Met Arg Arg Arg Arg Arg Pro Arg Leu Cys Pro Asp Ala Trp Leu Thr
 1 5 10 15

Leu Leu Leu Ser Ala Ala Leu Gly Leu Leu Leu Tyr Ala Gln Arg Asp
 20 25 30

Val Ala Ser Pro Thr Thr Arg Pro Pro Ala Arg Gly Pro Gln Leu Pro
 35 40 45

Arg Pro Thr Pro Ser Leu Arg Ala Arg Glu Leu Pro Asn Thr Ala Arg
 50 55 60

Ala Ala Pro Leu Ala Tyr Glu Gly Asp Thr Pro Val Pro Pro Thr Pro
65 70 75 80

Thr Asp Pro Phe Asp Phe Gly Gly Tyr Leu Arg Ala Lys Asp Gln Arg
85 90 95

Arg Phe Pro Leu Leu Ile Asn Gln Arg Arg Lys Cys Arg Ser Asp Gly
100 105 110

Ala Ser Gly Gly Ser Pro Asp Leu Leu Ile Ala Val Lys Ser Val Ala
115 120 125

Ala Asp Phe Glu Arg Arg Glu Ala Val Arg Gln Thr Trp Gly Ala Glu
130 135 140

Gly Arg Val Gln Gly Ala Leu Val Arg Arg Val Phe Leu Leu Gly Val
145 150 155 160

Pro Lys Gly Ala Gly Ser Gly Gly Ala Gly Thr Arg Ser His Trp Arg
165 170 175

Thr Leu Leu Glu Ala Glu Ser Arg Ala Tyr Ala Asp Ile Leu Leu Trp
180 185 190

Ala Phe Glu Asp Thr Phe Phe Asn Leu Thr Leu Lys Glu Ile His Phe
195 200 205

Leu Ser Trp Ala Ser Ala Phe Cys Pro Asp Val His Phe Val Phe Lys
210 215 220

Gly Asp Ala Asp Val Phe Val His Val Arg Asn Leu Leu Gln Phe Leu
225 230 235 240

Glu Leu Arg Asp Pro Ala Gln Asp Leu Leu Ala Gly Asp Val Ile Val
245 250 255

Gln Ala Arg Pro Ile Arg Ala Arg Ala Ser Lys Tyr Phe Ile Pro Arg
260 265 270

Ala Val Tyr Gly Leu Pro Val Tyr Pro Ala Tyr Ala Gly Gly Gly Gly
275 280 285

Phe Val Leu Ser Gly Ala Thr Leu Arg Arg Leu Ala Asp Ala Cys Ser
290 295 300

Gln Val Glu Leu Phe Pro Ile Asp Asp Val Phe Leu Gly Met Cys Leu
305 310 315 320

Gln Arg Leu Arg Leu Thr Pro Glu Pro His Pro Ala Phe Arg Thr Phe
 325 330 335

Gly Ile Ser Gln Pro Ser Ala Ala Pro His Leu Arg Thr Phe Asp Pro
 340 345 350

Cys Phe Tyr Arg Glu Leu Val Val Val His Gly Leu Ser Ala Ala Asp
 355 360 365

Ile Trp Leu Met Trp Arg Leu Leu His Gly Pro Gln Gly Pro Val Cys
 370 375 380

Ala His Pro Gln Pro Val Ala Thr Gly Pro Phe Gln Trp Asn Ser
 385 390 395

<210> 149

<211> 418

<212> PRT

<213> Danio rerio

<400> 149

Met Glu Phe Thr Ser Leu Leu Thr Asp Tyr Arg Met Thr Thr Arg Glu
 1 5 10 15

Arg Trp Arg Val Tyr Lys Arg Val Ser Leu Met Phe Leu Leu Ala Val
 20 25 30

Val Thr Leu Thr Val Val His Arg Gly Asn Leu Thr Ser Leu Gln Asp
 35 40 45

Phe Gln Thr Asp His Ile Glu Arg Gln Thr Arg Met Glu Leu Thr Ala
 50 55 60

Asp Ser Glu Val Gln Lys Lys Ala Thr Val Asn Phe Trp Lys Thr Ile
 65 70 75 80

Gln Arg Leu Gln Ser Thr Thr Gln Gly Ser Arg Ile Thr Leu Lys Gln
 85 90 95

Ala Pro Ser Thr Trp Asp Val Asp Ser Ser Asn Cys Ser Ile Asn Leu
 100 105 110

Phe Asn Ser Ser Gln Glu Trp Phe Thr Gly Pro Glu Asp Asn Phe Lys
 115 120 125

Gln Phe Leu Leu Tyr Arg His Cys Arg Tyr Phe Pro Met Leu Ile Asn

130 135 140
 His Pro Glu Lys Cys Ser Gly Glu Ile Asp Leu Leu Ile Val Ile Lys
 145 150 155 160
 Ser Val Ile Thr Gln Phe Asp Arg Arg Glu Val Ile Arg Lys Thr Trp
 165 170 175
 Gly Lys Glu Gln Val Leu Asn Gly Lys Arg Ile Lys Thr Leu Phe Leu
 180 185 190
 Leu Gly Lys Ser Ser Asn Leu Glu Glu Arg Ala Asn His Gln Lys Leu
 195 200 205
 Leu Glu Tyr Glu Asp Tyr Ile Tyr Gly Asp Thr Leu Gln Trp Asp Phe
 210 215 220
 Met Asp Ser Phe Phe Asn Leu Thr Leu Lys Glu Ile His Phe Leu Lys
 225 230 235 240
 Trp Phe Ser Ser Tyr Cys Pro Lys Thr Gln Tyr Ile Phe Lys Gly Asp
 245 250 255
 Asp Asp Val Phe Val Ser Val Pro Asn Ile Phe Glu Tyr Leu Glu Ile
 260 265 270
 Ser Gly Asn Leu Lys Asp Leu Phe Val Gly Asp Val Leu Phe Lys Ala
 275 280 285
 Lys Pro Ile Arg Lys Glu Gln Asn Lys Tyr Tyr Ile Pro Gln Ala Leu
 290 295 300
 Tyr Asn Lys Thr Leu Tyr Pro Pro Tyr Ala Gly Gly Gly Gly Phe Leu
 305 310 315 320
 Met Asp Gly Ala Leu Ala Arg Lys Leu Tyr Gly Ala Cys Glu Thr Leu
 325 330 335
 Glu Leu Tyr Pro Ile Asp Asp Val Phe Leu Gly Met Cys Leu Glu Val
 340 345 350
 Leu Gln Val Thr Pro Ile Lys His Asn Ala Phe Lys Thr Phe Gly Leu
 355 360 365
 Val Lys Asn Lys Thr Ser Arg Leu Asn Arg Glu Pro Cys Phe Phe Lys
 370 375 380
 Ser Leu Ile Val Val His Lys Leu Leu Pro Pro Asp Leu Met Ser Met

Gly Leu Lys Ile Lys Thr Leu Phe Leu Leu Gly Thr Pro Ala Pro Gly
180 185 190

Lys Asp Ser Arg Asn Leu Gln Ala Leu Val Gln Tyr Glu Asp Arg Thr
195 200 205

Tyr Gly Asp Ile Leu Gln Trp Asp Phe Met Asp Thr Phe Phe Asn Leu
210 215 220

Thr Leu Lys Glu Val Asn Phe Leu Arg Trp Phe Ser Ile Tyr Cys Pro
225 230 235 240

Asp Val Pro Phe Ile Phe Lys Gly Asp Asp Asp Val Phe Val His Thr
245 250 255

Lys Asn Leu Val Glu Leu Ile Gly Phe Arg Lys Glu Glu Asn Lys Val
260 265 270

Glu Asn Leu Ile Val Gly Asp Ala Ile Leu Glu Ala Lys Pro Ile Arg
275 280 285

Asn Arg Gln Ser Lys Tyr Phe Ile Pro Arg Glu Leu Tyr Asp Lys Arg
290 295 300

Tyr Pro Pro Tyr Leu Gly Gly Gly Gly Phe Leu Met Ser Ser Gln Val
305 310 315 320

Ala Arg Lys Val Phe Thr Val Ser Glu Ser Val Glu Leu Tyr Pro Ile
325 330 335

Asp Asp Val Phe Val Gly Met Cys Leu Gln Lys Leu Asn Ile Val Pro
340 345 350

Glu Val His Leu Gly Phe Arg Thr Phe Gly Ile Ile Lys Arg Lys Val
355 360 365

Thr Arg Leu Asn Arg Glu Pro Cys Phe Phe Arg Asp Leu Ile Val Val
370 375 380

His Lys Leu Val Pro Gln Asp Leu Leu Lys Met Trp Thr Leu Val Gln
385 390 395 400

Asn Glu Asp Leu Ser Cys Ala Arg Gln Phe Val Leu
405 410

<210> 151

<211> 397

<212> PRT

<213> Mus musculus

<400> 151

Met Ser Val Gly Arg Arg Arg Val Lys Leu Leu Gly Ile Leu Met Met
1 5 10 15

Ala Asn Val Phe Ile Tyr Leu Ile Val Glu Val Ser Lys Asn Ser Ser
20 25 30

Gln Asp Lys Asn Gly Lys Gly Gly Val Ile Ile Pro Lys Glu Lys Phe
35 40 45

Trp Lys Pro Pro Ser Thr Pro Arg Ala Tyr Trp Asn Arg Glu Gln Glu
50 55 60

Lys Leu Asn Arg Trp Tyr Asn Pro Ile Leu Asn Arg Val Ala Asn Gln
65 70 75 80

Thr Gly Glu Leu Ala Thr Ser Pro Asn Thr Ser His Leu Ser Tyr Cys
85 90 95

Glu Pro Asp Ser Thr Val Met Thr Ala Val Thr Asp Phe Asn Asn Leu
100 105 110

Pro Asp Arg Phe Lys Asp Phe Leu Leu Tyr Leu Arg Cys Arg Asn Tyr
115 120 125

Ser Leu Leu Ile Asp Gln Pro Lys Lys Cys Ala Lys Lys Pro Phe Leu
130 135 140

Leu Leu Ala Ile Lys Ser Leu Ile Pro His Phe Ala Arg Arg Gln Ala
145 150 155 160

Ile Arg Glu Ser Trp Gly Arg Glu Thr Asn Val Gly Asn Gln Thr Val
165 170 175

Val Arg Val Phe Leu Leu Gly Lys Thr Pro Pro Glu Asp Asn His Pro
180 185 190

Asp Leu Ser Asp Met Leu Lys Phe Glu Ser Asp Lys His Gln Asp Ile
195 200 205

Leu Met Trp Asn Tyr Arg Asp Thr Phe Phe Asn Leu Ser Leu Lys Glu
210 215 220

Val Leu Phe Leu Arg Trp Val Ser Thr Ser Cys Pro Asp Ala Glu Phe
225 230 235 240

Val Phe Lys Gly Asp Asp Asp Val Phe Val Asn Thr His His Ile Leu
 245 250 255

Asn Tyr Leu Asn Ser Leu Ser Lys Ser Lys Ala Lys Asp Leu Phe Ile
 260 265 270

Gly Asp Val Ile His Asn Ala Gly Pro His Arg Asp Lys Lys Leu Lys
 275 280 285

Tyr Tyr Ile Pro Glu Val Phe Tyr Thr Gly Val Tyr Pro Pro Tyr Ala
 290 295 300

Gly Gly Gly Gly Phe Leu Tyr Ser Gly Pro Leu Ala Leu Arg Leu Tyr
 305 310 315 320

Ser Ala Thr Ser Arg Val His Leu Tyr Pro Ile Asp Asp Val Tyr Thr
 325 330 335

Gly Met Cys Leu Gln Lys Leu Gly Leu Val Pro Glu Lys His Lys Gly
 340 345 350

Phe Arg Thr Phe Asp Ile Glu Glu Lys Asn Lys Lys Asn Ile Cys Ser
 355 360 365

Tyr Ile Asp Leu Met Leu Val His Ser Arg Lys Pro Gln Glu Met Ile
 370 375 380

Asp Ile Trp Ser Gln Leu Gln Ser Pro Asn Leu Lys Cys
 385 390 395

<210> 152

<211> 194

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
 Galactosyltransferase domain sequence

<400> 152

Arg Arg Asn Ala Ile Arg Lys Thr Trp Met Asn Gln Asn Asn Ser Arg
 1 5 10 15

Gly Gly Arg Ile Lys Ser Leu Phe Leu Val Gly Leu Ala Ala Leu Asp
 20 25 30

Gly Lys Leu Lys Lys Leu Val Met Glu Glu Ala Arg Leu Tyr Gly Asp
 35 40 45
 Ile Ile Val Val Asp Leu Glu Asp Ser Tyr Leu Asn Leu Thr Leu Lys
 50 55 60
 Thr Leu Thr Ile Leu Leu Tyr Val Val Ser Lys Cys Pro Asn Ala Lys
 65 70 75 80
 Leu Ile Gly Lys Ile Asp Asp Asp Val Phe Val Asn Pro Asp Asn Leu
 85 90 95
 Leu Ser Leu Leu Glu Arg Glu Tyr Ile Asp Pro Ser Pro Leu Ser Phe
 100 105 110
 Tyr Gly Tyr Ile Ile Lys Asn Gly Glu Pro Val Arg Thr Lys Lys Ser
 115 120 125
 Lys Trp Tyr Val Pro Pro Thr Ala Tyr Pro Cys Ser Asn Tyr Pro Pro
 130 135 140
 Tyr Leu Ser Gly Pro Phe Tyr Ile Leu Ser Arg Asp Ala Ala Pro Leu
 145 150 155 160
 Ile Leu Lys Ala Ser Lys His Arg Arg Phe Ile Lys Ile Glu Asp Val
 165 170 175
 Leu Ile Thr Gly Ile Leu Ala Leu Asp Leu Gly Ile Ser Arg Ile Asn
 180 185 190
 Leu Pro

<210> 153
 <211> 128
 <212> PRT
 <213> Homo sapiens

<400> 153
 Met Arg Thr Ala Leu Leu Leu Leu Ala Ala Leu Ala Val Ala Thr Gly
 1 5 10 15
 Pro Ala Leu Thr Leu Arg Cys His Val Cys Thr Ser Ser Ser Asn Cys
 20 25 30
 Lys His Ser Val Val Cys Pro Ala Ser Ser Arg Phe Cys Lys Thr Thr
 35 40 45

Asn Thr Val Glu Pro Leu Arg Gly Asn Leu Val Lys Lys Asp Cys Ala
 50 55 60

Glu Ser Cys Thr Pro Ser Tyr Thr Leu Gln Gly Gln Val Ser Ser Gly
 65 70 75 80

Thr Ser Ser Thr Gln Cys Cys Gln Glu Asp Leu Cys Asn Glu Lys Leu
 85 90 95

His Asn Ala Ala Pro Thr Arg Thr Ala Leu Ala His Ser Ala Leu Ser
 100 105 110

Leu Gly Leu Ala Leu Ser Leu Leu Ala Val Ile Leu Ala Pro Ser Leu
 115 120 125

<210> 154

<211> 128

<212> PRT

<213> Homo sapiens

<400> 154

Met Arg Thr Ala Leu Leu Leu Leu Ala Thr Leu Ala Val Ala Thr Gly
 1 5 10 15

Pro Ala Leu Thr Leu Arg Cys His Val Cys Thr Ser Ser Ser Asn Cys
 20 25 30

Lys His Ser Val Val Cys Pro Ala Ser Ser Arg Phe Cys Lys Thr Thr
 35 40 45

Asn Thr Val Glu Pro Leu Arg Gly Asn Leu Val Lys Lys Asp Cys Ala
 50 55 60

Glu Ser Cys Thr Pro Ser Tyr Thr Leu Gln Gly Gln Val Ser Ser Gly
 65 70 75 80

Thr Ser Ser Thr Gln Cys Cys Gln Glu Asp Leu Cys Asn Glu Lys Leu
 85 90 95

His Asn Ala Ala Pro Thr Arg Thr Ala Leu Ala His Ser Ala Leu Ser
 100 105 110

Leu Gly Leu Ala Leu Ser Leu Leu Ala Val Ile Leu Ala Pro Ser Leu

115

120

125

<210> 155

<211> 130

<212> PRT

<213> Homo sapiens

<400> 155

Met Phe Arg Met Lys Thr Ala Leu Leu Val Leu Leu Val Leu Ala Val
 1 5 10 15

Ala Thr Ser Pro Ala Trp Ala Leu Arg Cys His Val Cys Thr Asn Ser
 20 25 30

Ala Asn Cys Lys Asn Pro Gln Val Cys Pro Ser Asn Phe Tyr Phe Cys
 35 40 45

Lys Thr Val Thr Ser Val Glu Pro Leu Asn Gly Asn Leu Val Arg Lys
 50 55 60

Glu Cys Ala Asn Ser Cys Thr Ser Asp Tyr Ser Gln Gln Gly His Val
 65 70 75 80

Ser Ser Gly Ser Glu Val Thr Gln Cys Cys Gln Thr Asp Leu Cys Asn
 85 90 95

Glu Arg Leu Val Ser Ala Ala Pro Gly His Ala Leu Leu Ser Ser Val
 100 105 110

Thr Leu Gly Leu Ala Thr Ser Leu Ser Leu Leu Thr Val Met Ala Leu
 115 120 125

Cys Leu
 130

<210> 156

<211> 127

<212> PRT

<213> Homo sapiens

<400> 156

Met Lys Thr Ala Leu Leu Val Leu Leu Val Leu Ala Val Ala Thr Ser
 1 5 10 15

Pro Ala Trp Ala Leu Arg Cys His Val Cys Thr Asn Ser Ala Asn Cys
 20 25 30

Lys Asn Pro Gln Val Cys Pro Ser Asn Phe Tyr Phe Cys Lys Thr Val
 35 40 45

Thr Ser Val Glu Pro Leu Asn Gly Asn Leu Val Arg Lys Glu Cys Ala
 50 55 60

Asn Ser Cys Thr Ser Asp Tyr Ser Gln Gln Gly His Val Ser Ser Gly
 65 70 75 80

Ser Glu Val Thr Gln Cys Cys Gln Thr Asp Leu Cys Asn Glu Arg Leu
 85 90 95

Val Ser Ala Ala Pro Gly His Ala Leu Leu Ser Ser Val Thr Leu Gly
 100 105 110

Leu Ala Thr Ser Leu Ser Leu Leu Thr Val Met Ala Leu Cys Leu
 115 120 125

<210> 157

<211> 79

<212> PRT

<213> Homo sapiens

<400> 157

Ala Leu Thr Leu Arg Cys His Val Cys Thr Ser Ser Ser Asn Cys Lys
 1 5 10 15

His Ser Val Val Cys Pro Ala Ser Ser Arg Phe Cys Lys Thr Thr Asn
 20 25 30

Thr Val Glu Pro Leu Arg Gly Asn Leu Val Glu Lys Asp Cys Ala Glu
 35 40 45

Ser Cys Thr Pro Ser Tyr Thr Leu Gln Gly Leu Val Ser Ser Gly Thr
 50 55 60

Ser Ser Thr Gln Cys Cys Gln Glu Asp Leu Cys Asn Glu Lys Leu
 65 70 75

<210> 158

<211> 88

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Ly-6 antigen
domain sequence

<400> 158

Gln Cys Tyr Ser Cys Thr Gly Asn Pro Asp Ser Ser Cys Ser Thr Glu
1 5 10 15

Glu Cys Arg Ser Pro Asp Asp Val Cys Leu Thr Ala Val Ala Glu Val
20 25 30

Ile Ser Gly Ser Arg Gly Ser Val Val Tyr Lys Gly Cys Ala Thr Ser
35 40 45

Pro Ile Cys Pro Gly Ser His Gly Ile Glu Ile His Leu Thr Ile Ala
50 55 60

Asn Val Ser Val Ser Cys Cys Gln Thr Asp Leu Cys Asn Ala Ala Gly
65 70 75 80

Pro Thr Leu Gly Ser Thr Leu Thr
85

<210> 159

<211> 388

<212> PRT

<213> Homo sapiens

<400> 159

Met Lys Trp Met Val Val Val Leu Val Cys Leu Gln Leu Leu Glu Ala
1 5 10 15

Ala Val Val Lys Val Pro Leu Lys Lys Phe Lys Ser Ile Arg Glu Thr
20 25 30

Met Lys Glu Lys Gly Leu Leu Gly Glu Phe Leu Arg Thr His Lys Tyr
35 40 45

Asp Pro Ala Trp Lys Tyr Arg Phe Gly Asp Leu Ser Val Thr Tyr Glu
50 55 60

Pro Met Ala Tyr Met Asp Ala Ala Tyr Phe Gly Glu Ile Ser Ile Gly
65 70 75 80

Thr Pro Pro Gln Asn Phe Leu Val Leu Phe Asp Thr Gly Ser Ser Asn

85 90 95
 Leu Trp Val Pro Ser Val Tyr Cys Gln Ser Gln Ala Cys Thr Ser His
 100 105 110
 Ser Arg Phe Asn Pro Ser Glu Ser Ser Thr Tyr Ser Thr Asn Gly Gln
 115 120 125
 Thr Phe Ser Leu Gln Tyr Gly Ser Gly Ser Leu Thr Gly Phe Phe Gly
 130 135 140
 Tyr Asp Thr Leu Thr Val Gln Ser Ile Gln Val Pro Asn Gln Glu Phe
 145 150 155 160
 Gly Leu Ser Glu Asn Glu Pro Gly Thr Asn Phe Val Tyr Ala Gln Phe
 165 170 175
 Asp Gly Ile Met Gly Leu Ala Tyr Pro Ala Leu Ser Val Asp Glu Ala
 180 185 190
 Thr Thr Ala Met Gln Gly Met Val Gln Glu Gly Ala Leu Thr Ser Pro
 195 200 205
 Val Phe Ser Val Tyr Leu Ser Asn Gln Gln Gly Ser Ser Gly Gly Ala
 210 215 220
 Val Val Phe Gly Gly Val Asp Ser Ser Leu Tyr Thr Gly Gln Ile Tyr
 225 230 235 240
 Trp Ala Pro Val Thr Gln Glu Leu Tyr Trp Gln Ile Gly Ile Glu Glu
 245 250 255
 Phe Leu Ile Gly Gly Gln Ala Ser Gly Trp Cys Ser Glu Gly Cys Gln
 260 265 270
 Ala Ile Val Asp Thr Gly Thr Ser Leu Leu Thr Val Pro Gln Gln Tyr
 275 280 285
 Met Ser Ala Leu Leu Gln Ala Thr Gly Ala Gln Glu Asp Glu Tyr Gly
 290 295 300
 Gln Phe Leu Val Asn Cys Asn Ser Ile Gln Asn Leu Pro Ser Leu Thr
 305 310 315 320
 Phe Ile Ile Asn Gly Val Glu Phe Pro Leu Pro Pro Ser Ser Tyr Ile
 325 330 335
 Leu Ser Asn Asn Gly Tyr Cys Thr Val Gly Val Glu Pro Thr Tyr Leu

Glu Asn Glu Pro Gly Thr Asn Phe Val Tyr Ala Gln Phe Asp Gly Ile
 165 170 175
 Met Gly Leu Ala Tyr Pro Ala Leu Ser Val Asp Glu Ala Thr Thr Ala
 180 185 190
 Met Gln Gly Met Val Gln Glu Gly Ala Leu Thr Ser Pro Val Phe Ser
 195 200 205
 Val Tyr Leu Ser Asn Gln Gln Gly Ser Ser Gly Gly Ala Val Val Phe
 210 215 220
 Gly Gly Val Asp Ser Ser Leu Tyr Thr Gly Gln Ile Tyr Trp Ala Pro
 225 230 235 240
 Val Thr Gln Glu Leu Tyr Trp Gln Ile Gly Ile Glu Glu Phe Leu Ile
 245 250 255
 Gly Gly Gln Ala Ser Gly Trp Cys Ser Glu Gly Cys Gln Ala Ile Val
 260 265 270
 Asp Thr Gly Thr Ser Leu Leu Thr Val Pro Gln Gln Tyr Met Ser Ala
 275 280 285
 Leu Leu Gln Ala Thr Gly Ala Gln Glu Asp Glu Tyr Gly Gln Phe Leu
 290 295 300
 Val Asn Cys Asn Ser Ile Gln Asn Leu Pro Ser Leu Thr Phe Ile Ile
 305 310 315 320
 Asn Gly Val Glu Phe Pro Leu Pro Pro Ser Ser Tyr Ile Leu Ser Asn
 325 330 335
 Asn Gly Tyr Cys Thr Val Gly Val Glu Pro Thr Tyr Leu Ser Ser Gln
 340 345 350
 Asn Gly Gln Pro Leu Trp Ile Leu Gly Asp Val Phe Leu Arg Ser Tyr
 355 360 365
 Tyr Ser Val Tyr Asp Leu Gly Asn Asn Arg Val Gly Phe Ala Thr Ala
 370 375 380
 Ala
 385

<210> 161
 <211> 377

<212> PRT

<213> Macaca fuscata

<400> 161

Gln Leu Leu Glu Ala Ala Val Val Lys Val Pro Leu Lys Lys Phe Lys
1 5 10 15
Ser Ile Arg Glu Thr Met Lys Glu Lys Gly Leu Leu Gly Glu Phe Leu
20 25 30
Arg Thr His Lys Tyr Asp Pro Ala Trp Lys Tyr His Phe Gly Asp Leu
35 40 45
Ser Val Ser Tyr Glu Pro Met Ala Tyr Met Asp Ala Ala Tyr Phe Gly
50 55 60
Glu Ile Ser Ile Gly Thr Pro Pro Gln Asn Phe Leu Val Leu Phe Asp
65 70 75 80
Thr Gly Ser Ser Asn Leu Trp Val Pro Ser Val Tyr Cys Gln Ser Gln
85 90 95
Ala Cys Thr Ser His Ser Arg Phe Asn Pro Ser Glu Ser Ser Thr Tyr
100 105 110
Ser Thr Asn Gly Gln Thr Phe Ser Leu Gln Tyr Gly Ser Gly Ser Leu
115 120 125
Thr Gly Phe Phe Gly Tyr Asp Thr Leu Thr Val Gln Ser Ile Gln Val
130 135 140
Pro Asn Gln Glu Phe Gly Leu Ser Glu Asn Glu Pro Gly Thr Asn Phe
145 150 155 160
Val Tyr Ala Gln Phe Asp Gly Ile Met Gly Leu Ala Tyr Pro Thr Leu
165 170 175
Ser Val Asp Gly Ala Thr Thr Ala Met Gln Gly Met Val Gln Glu Gly
180 185 190
Ala Leu Thr Ser Pro Ile Phe Ser Val Tyr Leu Ser Asp Gln Gln Gly
195 200 205
Ser Ser Gly Gly Ala Val Val Phe Gly Gly Val Asp Ser Ser Leu Tyr
210 215 220
Thr Gly Gln Ile Tyr Trp Ala Pro Val Thr Gln Glu Leu Tyr Trp Gln
225 230 235 240

Ile Gly Ile Glu Glu Phe Leu Ile Gly Gly Gln Ala Ser Gly Trp Cys
 245 250 255

Ser Glu Gly Cys Gln Ala Ile Val Asp Thr Gly Thr Ser Leu Leu Thr
 260 265 270

Val Pro Gln Gln Tyr Met Ser Ala Leu Leu Gln Ala Thr Gly Ala Gln
 275 285

Glu Asp Glu Tyr Gly Gln Phe Leu Val Asn Cys Asn Ser Ile Gln Asn
 290 295 300

Leu Pro Thr Leu Thr Phe Ile Ile Asn Gly Val Glu Phe Pro Leu Pro
 305 310 315 320

Pro Ser Ser Tyr Ile Leu Asn Asn Asn Gly Tyr Cys Thr Val Gly Val
 325 330 335

Glu Pro Thr Tyr Leu Ser Ala Gln Asn Ser Gln Pro Leu Trp Ile Leu
 340 345 350

Gly Asp Val Phe Leu Arg Ser Tyr Tyr Ser Val Tyr Asp Leu Ser Asn
 355 360 365

Asn Arg Val Gly Phe Ala Thr Ala Ala
 370 375

<210> 162

<211> 388

<212> PRT

<213> Callithrix jacchus

<400> 162

Met Lys Trp Met Val Val Ala Phe Ile Cys Leu Gln Leu Leu Glu Ala
 1 5 10 15

Thr Val Val Lys Val Pro Leu Lys Lys Phe Lys Ser Ile Arg Glu Thr
 20 25 30

Met Lys Glu Lys Gly Leu Leu Trp Glu Phe Leu Lys Thr His Lys His
 35 40 45

Asp Pro Ala Arg Lys Tyr Arg Val Ser Asp Leu Ser Val Ser Tyr Glu
 50 55 60

Pro Met Asp Tyr Met Asp Ala Ala Tyr Phe Gly Glu Ile Ser Ile Gly

Tyr Asp Thr Leu Thr Val Gln Ser Ile Gln Val Pro Asn Gln Glu Phe
 145 150 155 160
 Gly Leu Ser Glu Asn Glu Pro Gly Thr Asn Phe Val Tyr Ala Gln Phe
 165 170 175
 Asp Gly Ile Met Gly Met Ala Tyr Pro Ser Leu Ala Met Gly Gly Ala
 180 185 190
 Thr Thr Ala Leu Gln Gly Met Leu Gln Glu Gly Ala Leu Thr Ser Pro
 195 200 205
 Val Phe Ser Phe Tyr Leu Ser Asn Gln Gln Gly Ser Gln Asn Gly Gly
 210 215 220
 Ala Val Ile Phe Gly Gly Val Asp Asn Ser Leu Tyr Gln Gly Gln Ile
 225 230 235 240
 Tyr Trp Ala Pro Val Thr Gln Glu Leu Tyr Trp Gln Ile Gly Ile Glu
 245 250 255
 Glu Phe Leu Ile Gly Gly Gln Ala Ser Gly Trp Cys Ser Gln Gly Cys
 260 265 270
 Gln Ala Ile Val Asp Thr Gly Thr Ser Leu Leu Thr Val Pro Gln Gln
 275 280 285
 Tyr Met Ser Ala Leu Leu Gln Ala Thr Gly Ala Gln Glu Asp Gln Tyr
 290 295 300
 Gly Gln Phe Phe Val Asn Cys Asn Tyr Ile Gln Asn Leu Pro Thr Phe
 305 310 315 320
 Thr Phe Ile Ile Asn Gly Val Gln Phe Pro Leu Pro Pro Ser Ser Tyr
 325 330 335
 Ile Leu Asn Asn Asn Gly Tyr Cys Thr Val Gly Val Glu Pro Thr Tyr
 340 345 350
 Leu Pro Ser Gln Asn Gly Gln Pro Leu Trp Ile Leu Gly Asp Val Phe
 355 360 365
 Leu Arg Ser Tyr Tyr Ser Val Tyr Asp Met Gly Asn Asn Arg Val Gly
 370 375 380
 Phe Ala Thr Ala Ala
 385

<210> 164
 <211> 376
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Eukaryotic
 aspartyl protease domain sequence

<400> 164
 Phe Val Arg Ile Pro Leu Lys Lys Val Pro Ser Leu Arg Glu Lys Leu
 1 5 10 15
 Ser Glu Lys Gly Val Leu Leu Asp Phe Leu Val Lys Arg Lys Tyr Glu
 20 25 30
 Pro Thr Lys Lys Leu Thr Gly Gly Ala Ser Ser Ser Arg Ser Ala Val
 35 40 45
 Glu Pro Leu Leu Asn Tyr Leu Asp Ala Glu Tyr Tyr Gly Thr Ile Ser
 50 55 60
 Ile Gly Thr Pro Pro Gln Lys Phe Thr Val Val Phe Asp Thr Gly Ser
 65 70 75 80
 Ser Asp Leu Trp Val Pro Ser Val Tyr Cys Thr Ser Ser Tyr Ala Cys
 85 90 95
 Lys Gly His Gly Thr Phe Asp Pro Ser Lys Ser Ser Thr Tyr Lys Asn
 100 105 110
 Leu Gly Thr Thr Phe Ser Ile Ser Tyr Gly Asp Gly Ser Ser Ala Ser
 115 120 125
 Gly Phe Leu Gly Gln Asp Thr Val Thr Val Gly Gly Ile Thr Val Thr
 130 135 140
 Asn Gln Gln Phe Gly Leu Ala Thr Lys Glu Pro Gly Ser Phe Phe Ala
 145 150 155 160
 Thr Ala Val Phe Asp Gly Ile Leu Gly Leu Gly Phe Pro Ser Ile Glu
 165 170 175
 Ala Gly Gly Pro Tyr Thr Pro Val Phe Asp Asn Leu Lys Ser Gln Gly
 180 185 190
 Leu Ile Asp Ser Pro Ala Phe Ser Val Tyr Leu Asn Ser Asp Ser Gly

Leu Pro Asn Pro His Val Gly Glu Val Ser Val Leu Ser Ser Gly Ser
 35 40 45
 Pro Arg Leu Gln Glu Thr Pro Gln Asp Cys Ser Gly Gly Pro Val Arg
 50 55 60
 Arg Cys Ala Leu Cys Asn Cys Gly Glu Pro Ala Leu His Gly Gln Arg
 65 70 75 80
 Glu Leu Arg Arg Phe Glu Leu Pro Phe Asp Trp Pro Arg Cys Pro Val
 85 90 95
 Val Ser Pro Gly Gly Ser Pro Gly Pro Asn Glu Ala Val Leu Pro Ser
 100 105 110
 Glu Asp Leu Ser Gln Ile Gly Phe Pro Glu Gly Leu Thr Pro Ala His
 115 120 125
 Leu Gly Glu Pro Gly Gly Ser Cys Trp Ala His His Trp Cys Ala Ala
 130 135 140
 Trp Ser Ala Gly Val Trp Gly Gln Glu Gly Pro Gln Leu Cys Gly Val
 145 150 155 160
 Asp Lys Ala Ile Phe Ser Gly Ile Ser Gln Arg Cys Ser His Cys Thr
 165 170 175
 Arg Leu Gly Ala Ser Ile Pro Cys Arg Ser Pro Gly Cys Pro Arg Leu
 180 185 190
 Tyr His Phe Pro Cys Ala Thr Ala Ser Gly Ser Phe Leu Ser Met Lys
 195 200 205
 Thr Leu Gln Leu Leu Cys Pro Glu His Ser Glu Gly Ala Ala Tyr Leu
 210 215 220
 Glu Glu Ala Arg Cys Ala Val Cys Glu Gly Pro Gly Glu Leu Cys Asp
 225 230 235 240
 Leu Phe Phe Cys Thr Ser Cys Gly His His Tyr His Gly Ala Cys Leu
 245 250 255
 Asp Thr Ala Leu Thr Ala Arg Lys Arg Ala Gly Trp Gln Cys Pro Glu
 260 265 270
 Cys Lys Val Cys Gln Ala Cys Arg Lys Pro Gly Asn Asp Ser Lys Met
 275 280 285

Leu Val Cys Glu Thr Cys Asp Lys Gly Tyr His Thr Phe Cys Leu Lys
 290 295 300
 Pro Pro Met Glu Glu Leu Pro Ala His Ser Trp Lys Cys Lys Ala Cys
 305 310 315 320
 Arg Val Cys Arg Ala Cys Gly Ala Gly Ser Ala Glu Leu Asn Pro Asn
 325 330 335
 Ser Glu Trp Phe Glu Asn Tyr Ser Leu Cys His Arg Cys His Lys Ala
 340 345 350
 Gln Gly Gly Gln Thr Ile Arg Ser Val Ala Glu Gln His Thr Pro Val
 355 360 365
 Cys Ser Arg Phe Ser Pro Pro Glu Pro Gly Asp Thr Pro Thr Asp Glu
 370 375 380
 Pro Asp Ala Leu Tyr Val Ala Cys Gln Gly Gln Pro Lys Gly Gly His
 385 390 395 400
 Val Thr Ser Met Gln Pro Lys Glu Pro Gly Pro Leu Gln Cys Glu Ala
 405 410 415
 Lys Pro Leu Gly Lys Ala Gly Val Gln Leu Glu Pro Gln Leu Glu Ala
 420 425 430
 Pro Leu Asn Glu Glu Met Pro Leu Leu Pro Pro Pro Glu Glu Ser Pro
 435 440 445
 Leu Ser Pro Pro Pro Glu Glu Ser Pro Thr Ser Pro Pro Pro Glu Ala
 450 455 460
 Ser Arg Leu Ser Pro Pro Pro Glu Glu Leu Pro Ala Ser Pro Leu Pro
 465 470 475 480
 Glu Ala Leu His Leu Ser Arg Pro Leu Glu Glu Ser Pro Leu Ser Pro
 485 490 495
 Pro Pro Glu Glu Ser Pro Leu Ser Pro Pro Pro Glu Ser Ser Pro Phe
 500 505 510
 Ser Pro Leu Glu Glu Ser Pro Leu Ser Pro Pro Glu Glu Ser Pro Pro
 515 520 525
 Ser Pro Ala Leu Glu Thr Pro Leu Ser Pro Pro Pro Glu Ala Ser Pro
 530 535 540

Leu Ser Pro Pro Phe Glu Glu Ser Pro Leu Ser Pro Pro Pro Glu Glu
 545 550 555 560

Leu Pro Thr Ser Pro Pro Pro Glu Ala Ser Arg Leu Ser Pro Pro Pro
 565 570 575

Glu Glu Ser Pro Met Ser Pro Pro Pro Glu Glu Ser Pro Met Ser Pro
 580 585 590

Pro Pro Glu Ala Ser Arg Leu Phe Pro Pro Phe Glu Glu Ser Pro Leu
 595 600 605

Ser Pro Pro Pro Glu Glu Ser Pro Leu Ser Pro Pro Pro Glu Ala Ser
 610 615 620

Arg Leu Ser Pro Pro Pro Glu Asp Ser Pro Met Ser Pro Pro Pro Glu
 625 630 635 640

Glu Ser Pro Met Ser Pro Pro Pro Glu Val Ser Arg Leu Ser Pro Leu
 645 650 655

Pro Val Val Ser Arg Leu Ser Pro Pro Pro Glu Glu Ser Pro Leu Ser
 660 665 670

Pro Pro Ala Leu Ser Pro Leu Gly Glu Leu Glu Tyr Pro Phe Gly Ala
 675 680 685

Lys Gly Asp Ser Asp Pro Glu Ser Pro Leu Ala Ala Pro Ile Leu Glu
 690 695 700

Thr Pro Ile Ser Pro Pro Pro Glu Ala Asn Cys Thr Asp Pro Glu Pro
 705 710 715 720

Val Pro Pro Met Ile Leu Pro Pro Ser Pro Gly Ser Pro Val Gly Pro
 725 730 735

Ala Ser Pro Ile Leu Met Glu Pro Leu Pro Pro Gln Cys Ser Pro Leu
 740 745 750

Leu Gln His Ser Leu Val Pro Gln Asn Ser Pro Pro Ser Gln Cys Ser
 755 760 765

Pro Pro Ala Leu Pro Leu Ser Val Pro Ser Pro Leu Ser Pro Ile Gly
 770 775 780

Lys Val Val Gly Val Ser Asp Glu Ala Glu Leu His Glu Met Glu Thr
 785 790 795 800

Glu Lys Val Ser Glu Pro Glu Cys Pro Ala Leu Glu Pro Ser Ala Thr
 805 810 815

Ser Pro Leu Pro Ser Pro Met Gly Asp Leu Ser Cys Pro Ala Pro Ser
 820 825 830

Pro Ala Pro Ala Leu Asp Asp Phe Ser Gly Leu Gly Glu Asp Thr Ala
 835 840 845

Pro Leu Asp Gly Ile Asp Ala Pro Gly Ser Gln Pro Glu Pro Gly Gln
 850 855 860

Thr Pro Gly Ser Leu Ala Ser Glu Leu Lys Gly Ser Pro Val Leu Leu
 865 870 875 880

Asp Pro Glu Glu Leu Ala Pro Val Thr Pro Met Glu Val Tyr Pro Glu
 885 890 895

Cys Lys Gln Thr Ala Gly Arg Gly Ser Pro Cys Glu Glu Gln Glu Glu
 900 905 910

Pro Arg Ala Pro Val Ala Pro Thr Pro Pro Thr Leu Ile Lys Ser Asp
 915 920 925

Ile Val Asn Glu Ile Ser Asn Leu Ser Gln Gly Asp Ala Ser Ala Ser
 930 935 940

Phe Pro Gly Ser Glu Pro Leu Leu Gly Ser Pro Asp Pro Glu Gly Gly
 945 950 955 960

Gly Ser Leu Ser Met Glu Leu Gly Val Ser Thr Asp Val Ser Pro Ala
 965 970 975

Arg Asp Glu Gly Ser Leu Arg Leu Cys Thr Asp Ser Leu Pro Glu Thr
 980 985 990

Asp Asp Ser Leu Leu Cys Asp Ala Gly Thr Ala Ile Ser Gly Gly Lys
 995 1000 1005

Ala Glu Gly Glu Lys Gly Arg Arg Arg Ser Ser Pro Ala Arg Ser Arg
 1010 1015 1020

Ile Lys Gln Gly Arg Ser Ser Ser Phe Pro Gly Arg Arg Arg Pro Arg
 1025 1030 1035 1040

Gly Gly Ala His Gly Gly Arg Gly Arg Gly Arg Ala Arg Leu Lys Ser
 1045 1050 1055

Thr Ala Ser Ser Ile Glu Thr Leu Val Val Ala Asp Ile Asp Ser Ser
 1060 1065 1070
 Pro Ser Lys Glu Glu Glu Glu Glu Asp Asp Asp Thr Met Gln Asn Thr
 1075 1080 1085
 Val Val Leu Phe Ser Asn Thr Asp Lys Phe Val Leu Met Gln Asp Met
 1090 1095 1100
 Cys Val Val Cys Gly Ser Phe Gly Arg Gly Ala Glu Gly His Leu Leu
 1105 1110 1115 1120
 Ala Cys Ser Gln Cys Ser Gln Cys Tyr His Pro Tyr Cys Val Asn Ser
 1125 1130 1135
 Lys Ile Thr Lys Val Met Leu Leu Lys Gly Trp Arg Cys Val Glu Cys
 1140 1145 1150
 Ile Val Cys Glu Val Cys Gly Gln Ala Ser Asp Pro Ser Arg Leu Leu
 1155 1160 1165
 Leu Cys Asp Asp Cys Asp Ile Ser Tyr His Thr Tyr Cys Leu Asp Pro
 1170 1175 1180
 Pro Leu Leu Thr Val Pro Lys Gly Gly Trp Lys Cys Lys Trp Cys Val
 1185 1190 1195 1200
 Ser Cys Met Gln Cys Gly Ala Ala Ser Pro Gly Phe His Cys Glu Trp
 1205 1210 1215
 Gln Asn Ser Tyr Thr His Cys Gly Pro Cys Ala Ser Leu Val Thr Cys
 1220 1225 1230
 Pro Ile Cys His Ala Pro Tyr Val Glu Glu Asp Leu Leu Ile Gln Cys
 1235 1240 1245
 Arg His Cys Glu Arg Trp Met His Ala Gly Cys Glu Ser Leu Phe Thr
 1250 1255 1260
 Glu Asp Asp Val Asp His Ala Pro Asp Glu Gly Phe Asp Cys Val Ser
 1265 1270 1275 1280
 Cys Gln Pro Tyr Val Val Lys Pro Val Ala Pro Val Ala Pro Pro Glu
 1285 1290 1295
 Leu Val Pro Met Lys Val Lys Glu Pro Glu Pro Gln Tyr Phe Arg Phe
 1300 1305 1310

Glu Gly Val Trp Leu Thr Glu Thr Gly Met Ala Leu Leu Arg Asn Leu
 1315 1320 1325

Thr Met Ser Pro Leu His Lys Arg Arg Gln Arg Arg Gly Arg Leu Gly
 1330 1335 1340

Leu Pro Gly Glu Ala Gly Leu Glu Gly Ser Glu Pro Ser Asp Ala Leu
 1345 1350 1355 1360

Gly Pro Asp Asp Lys Lys Asp Gly Asp Leu Asp Thr Asp Glu Leu Leu
 1365 1370 1375

Lys Gly Glu Gly Gly Val Glu His Met Glu Cys Glu Ile Lys Leu Glu
 1380 1385 1390

Gly Pro Val Ser Pro Asp Val Glu Pro Gly Lys Glu Glu Thr Glu Glu
 1395 1400 1405

Ser Lys Lys Arg Lys Arg Lys Pro Tyr Arg Pro Gly Ile Gly Gly Phe
 1410 1415 1420

Met Val Arg Gln Arg Lys Ser His Thr Arg Thr Lys Lys Gly Pro Ala
 1425 1430 1435 1440

Ala Gln Ala Glu Val Leu Ser Gly Asp Gly Gln Pro Asp Glu Val Ile
 1445 1450 1455

Pro Ala Asp Leu Pro Ala Glu Gly Ala Val Glu Gln Ser Leu Ala Glu
 1460 1465 1470

Gly Asp Glu Lys Lys Lys Gln Gln Arg Arg Gly Arg Lys Arg Ser Lys
 1475 1480 1485

Leu Glu Gly Met Phe Pro Ala Tyr Leu Gln Glu Ala Phe Phe Gly Lys
 1490 1495 1500

Glu Leu Leu Asp Leu Ser Arg Lys Ala Leu Phe Ala Val Gly Val Gly
 1505 1510 1515 1520

Arg Pro Ser Phe Gly Leu Gly Thr Pro Lys Ala Lys Gly Asp Gly Gly
 1525 1530 1535

Ser Glu Arg Lys Glu Leu Pro Thr Ser Gln Lys Gly Asp Asp Gly Pro
 1540 1545 1550

Asp Ile Ala Asp Glu Glu Ser Arg Gly Leu Glu Gly Lys Ala Asp Thr
 1555 1560 1565

Pro Gly Pro Glu Asp Gly Gly Val Lys Ala Ser Pro Val Pro Ser Asp
 1570 1575 1580

Pro Glu Lys Pro Gly Thr Pro Gly Glu Gly Met Leu Ser Ser Asp Leu
 1585 1590 1595 1600

Asp Arg Ile Ser Thr Glu Glu Leu Pro Lys Met Glu Ser Lys Asp Leu
 1605 1610 1615

Gln Gln Leu Phe Lys Asp Val Leu Gly Ser Glu Arg Glu Gln His Leu
 1620 1625 1630

Gly Cys Gly Thr Pro Gly Leu Glu Gly Ser Arg Thr Pro Leu Gln Arg
 1635 1640 1645

Pro Phe Leu Gln Gly Gly Leu Pro Leu Gly Asn Leu Pro Ser Ser Ser
 1650 1655 1660

Pro Met Asp Ser Tyr Pro Gly Leu Cys Gln Ser Pro Phe Leu Asp Ser
 1665 1670 1675 1680

Arg Glu Arg Gly Gly Phe Phe Ser Pro Glu Pro Gly Glu Pro Asp Ser
 1685 1690 1695

Pro Trp Thr Gly Ser Gly Gly Thr Thr Pro Ser Thr Pro Thr Thr Pro
 1700 1705 1710

Thr Thr Glu Gly Glu Gly Asp Gly Leu Ser Tyr Asn Gln Arg Ser Leu
 1715 1720 1725

Gln Arg Trp Glu Lys Asp Glu Glu Leu Gly Gln Leu Ser Thr Ile Ser
 1730 1735 1740

Pro Val Leu Tyr Ala Asn Ile Asn Phe Pro Asn Leu Lys Gln Asp Tyr
 1745 1750 1755 1760

Pro Asp Trp Ser Ser Arg Cys Lys Gln Ile Met Lys Leu Trp Arg Lys
 1765 1770 1775

Val Pro Ala Ala Asp Lys Ala Pro Tyr Leu Gln Lys Ala Lys Asp Asn
 1780 1785 1790

Arg Ala Ala His Arg Ile Asn Lys Val Gln Lys Gln Ala Glu Ser Gln
 1795 1800 1805

Ile Asn Lys Gln Thr Lys Val Gly Asp Ile Ala Arg Lys Thr Asp Arg
 1810 1815 1820

Pro Ala Leu His Leu Arg Ile Pro Pro Gln Pro Gly Ala Leu Gly Ser
 1825 1830 1835 1840
 Pro Pro Pro Ala Ala Ala Pro Thr Ile Phe Ile Gly Ser Pro Thr Thr
 1845 1850 1855
 Pro Ala Gly Leu Ser Thr Ser Ala Asp Gly Phe Leu Lys Pro Pro Ala
 1860 1865 1870
 Gly Ser Val Pro Gly Pro Asp Ser Pro Gly Glu Leu Phe Leu Lys Leu
 1875 1880 1885
 Pro Pro Gln Val Pro Ala Gln Ala Pro Ser Gln Asp Pro Phe Gly Leu
 1890 1895 1900
 Ala Pro Ala Tyr Pro Leu Glu Pro Arg Phe Pro Thr Ala Pro Pro Thr
 1905 1910 1915 1920
 Tyr Pro Pro Tyr Pro Ser Pro Thr Gly Ala Pro Ala Gln Pro Pro Met
 1925 1930 1935
 Leu Gly Ala Ser Ser Arg Pro Gly Ala Gly Gln Pro Gly Glu Phe His
 1940 1945 1950
 Thr Thr Pro Pro Gly Thr Pro Arg His Gln Pro Ser Thr Pro Asp Pro
 1955 1960 1965
 Phe Leu Lys Pro Arg Cys Pro Ser Leu Asp Asn Leu Ala Val Pro Glu
 1970 1975 1980
 Ser Pro Gly Val Gly Gly Gly Lys Ala Ser Glu Pro Leu Leu Ser Pro
 1985 1990 1995 2000
 Pro Pro Phe Gly Glu Ser Arg Lys Ala Leu Glu Val Lys Lys Glu Glu
 2005 2010 2015
 Leu Gly Ala Ser Ser Pro Ser Tyr Gly Pro Pro Asn Leu Gly Phe Val
 2020 2025 2030
 Asp Ser Pro Ser Ser Gly Thr His Leu Gly Gly Leu Glu Leu Lys Thr
 2035 2040 2045
 Pro Asp Val Phe Lys Ala Pro Leu Thr Pro Arg Ala Ser Gln Val Glu
 2050 2055 2060
 Pro Gln Ser Pro Gly Leu Gly Leu Arg Pro Gln Glu Pro Pro Pro Ala
 2065 2070 2075 2080

Gln Ala Leu Ala Pro Ser Pro Pro Ser His Pro Asp Ile Phe Arg Pro
 2085 2090 2095
 Gly Ser Tyr Thr Asp Pro Tyr Ala Gln Pro Pro Leu Thr Pro Arg Pro
 2100 2105 2110
 Gln Pro Pro Pro Pro Glu Ser Cys Cys Ala Leu Pro Pro Arg Ser Leu
 2115 2120 2125
 Pro Ser Asp Pro Phe Ser Arg Val Pro Val Ser Pro Gln Ser Gln Ser
 2130 2135 2140
 Ser Ser Gln Ser Pro Leu Thr Pro Arg Pro Leu Ser Ala Glu Ala Phe
 2145 2150 2155 2160
 Cys Pro Ser Pro Val Thr Pro Arg Phe Gln Ser Pro Asp Pro Tyr Ser
 2165 2170 2175
 Arg Pro Pro Ser Arg Pro Gln Ser Arg Asp Pro Phe Ala Pro Leu His
 2180 2185 2190
 Lys Pro Pro Arg Pro Gln Pro Pro Glu Val Ala Phe Lys Ala Gly Ser
 2195 2200 2205
 Leu Ala His Thr Ser Leu Gly Ala Gly Gly Phe Pro Ala Ala Leu Pro
 2210 2215 2220
 Ala Gly Pro Ala Gly Glu Leu His Ala Lys Val Pro Ser Gly Gln Pro
 2225 2230 2235 2240
 Pro Asn Phe Val Arg Ser Pro Gly Thr Gly Ala Phe Val Gly Thr Pro
 2245 2250 2255
 Ser Pro Met Arg Phe Thr Phe Pro Gln Ala Val Gly Glu Pro Ser Leu
 2260 2265 2270
 Lys Pro Pro Val Pro Gln Pro Gly Leu Pro Pro Pro His Gly Ile Asn
 2275 2280 2285
 Ser His Phe Gly Pro Gly Pro Thr Leu Gly Lys Pro Gln Ser Thr Asn
 2290 2295 2300
 Tyr Thr Val Ala Thr Gly Asn Phe His Pro Ser Gly Ser Pro Leu Gly
 2305 2310 2315 2320
 Pro Ser Ser Gly Ser Thr Gly Glu Ser Tyr Gly Leu Ser Pro Leu Arg
 2325 2330 2335

Pro Pro Ser Val Leu Pro Pro Pro Ala Pro Asp Gly Ser Leu Pro Tyr
 2340 2345 2350

Leu Ser His Gly Ala Ser Gln Arg Ser Gly Ile Thr Ser Pro Val Glu
 2355 2360 2365

Lys Arg Glu Asp Pro Gly Thr Gly Met Gly Ser Ser Leu Ala Thr Ala
 2370 2375 2380

Glu Leu Pro Gly Thr Gln Asp Pro Gly Met Ser Gly Leu Ser Gln Thr
 2385 2390 2395 2400

Glu Leu Glu Lys Gln Arg Gln Arg Gln Arg Leu Arg Glu Leu Leu Ile
 2405 2410 2415

Arg Gln Gln Ile Gln Arg Asn Thr Leu Arg Gln Glu Lys Glu Thr Ala
 2420 2425 2430

Ala Ala Ala Ala Gly Ala Val Gly Pro Pro Gly Ser Trp Gly Ala Glu
 2435 2440 2445

Pro Ser Ser Pro Ala Phe Glu Gln Leu Ser Arg Gly Gln Thr Pro Phe
 2450 2455 2460

Ala Gly Thr Gln Asp Lys Ser Ser Leu Val Gly Leu Pro Pro Ser Lys
 2465 2470 2475 2480

Leu Ser Gly Pro Ile Leu Gly Pro Gly Ser Phe Pro Ser Asp Asp Arg
 2485 2490 2495

Leu Ser Arg Pro Pro Pro Pro Ala Thr Pro Ser Ser Met Asp Val Asn
 2500 2505 2510

Ser Arg Gln Leu Val Gly Gly Ser Gln Ala Phe Tyr Gln Arg Ala Pro
 2515 2520 2525

Tyr Pro Gly Ser Leu Pro Leu Gln Gln Gln Gln Gln Leu Trp Gln
 2530 2535 2540

Gln Gln Gln Ala Thr Ala Ala Thr Ser Met Arg Phe Ala Met Ser Ala
 2545 2550 2555 2560

Arg Phe Pro Ser Thr Pro Gly Pro Glu Leu Gly Arg Gln Ala Leu Gly
 2565 2570 2575

Ser Pro Leu Ala Gly Ile Ser Thr Arg Leu Pro Gly Pro Gly Glu Pro
 2580 2585 2590

Val Pro Gly Pro Ala Gly Pro Ala Gln Phe Ile Glu Leu Arg His Asn
 2595 2600 2605

Val Gln Lys Gly Leu Gly Pro Gly Gly Thr Pro Phe Pro Gly Gln Gly
 2610 2615 2620

Pro Pro Gln Arg Pro Arg Phe Tyr Pro Val Ser Glu Asp Pro His Arg
 2625 2630 2635 2640

Leu Ala Pro Glu Gly Leu Arg Gly Leu Ala Val Ser Gly Leu Pro Pro
 2645 2650 2655

Gln Lys Pro Ser Ala Pro Pro Ala Pro Glu Leu Asn Asn Ser Leu His
 2660 2665 2670

Pro Thr Pro His Thr Lys Gly Pro Thr Leu Pro Thr Gly Leu Glu Leu
 2675 2680 2685

Val Asn Arg Pro Pro Ser Ser Thr Glu Leu Gly Arg Pro Asn Pro Leu
 2690 2695 2700

Ala Leu Glu Ala Gly Lys Leu Pro Cys Glu Asp Pro Glu Leu Asp Asp
 2705 2710 2715 2720

Asp Phe Asp Ala His Lys Ala Leu Glu Asp Asp Glu Glu Leu Ala His
 2725 2730 2735

Leu Gly Leu Gly Val Asp Val Ala Lys Gly Asp Asp Glu Leu Gly Thr
 2740 2745 2750

Leu Glu Asn Leu Glu Thr Asn Asp Pro His Leu Asp Asp Leu Leu Asn
 2755 2760 2765

Gly Asp Glu Phe Asp Leu Leu Ala Tyr Thr Asp Pro Glu Leu Asp Thr
 2770 2775 2780

Gly Asp Lys Lys Asp Ile Phe Asn Glu His Leu Arg Leu Val Glu Ser
 2785 2790 2795 2800

Ala Asn Glu Glu Ala Glu Arg Glu Ala Leu Leu Arg Gly Val Glu Pro
 2805 2810 2815

Gly Pro Leu Gly Pro Glu Glu Arg Pro Pro Pro Ala Ala Asp Ala Ser
 2820 2825 2830

Glu Pro Arg Leu Ala Ser Val Leu Pro Glu Val Lys Pro Lys Val Glu
 2835 2840 2845

Glu Gly Gly Arg His Pro Ser Pro Cys Gln Phe Thr Ile Ala Thr Pro
 2850 2855 2860

Lys Val Glu Pro Ala Pro Ala Ala Asn Ser Leu Gly Leu Gly Leu Lys
 2865 2870 2875 2880

Pro Gly Gln Ser Met Met Gly Ser Arg Asp Thr Arg Met Gly Thr Gly
 2885 2890 2895

Pro Phe Ser Ser Ser Gly His Thr Ala Glu Lys Ala Ser Phe Gly Ala
 2900 2905 2910

Thr Gly Gly Pro Pro Ala His Leu Leu Thr Pro Ser Pro Leu Ser Gly
 2915 2920 2925

Pro Gly Gly Ser Ser Leu Leu Glu Lys Phe Glu Leu Glu Ser Gly Ala
 2930 2935 2940

Leu Thr Leu Pro Gly Gly Pro Ala Ala Ser Gly Asp Glu Leu Asp Lys
 2945 2950 2955 2960

Met Glu Ser Ser Leu Val Ala Ser Glu Leu Pro Leu Leu Ile Glu Asp
 2965 2970 2975

Leu Leu Glu His Glu Lys Lys Glu Leu Gln Lys Lys Gln Gln Leu Ser
 2980 2985 2990

Ala Gln Leu Gln Pro Ala Gln Gln Gln Gln Gln Gln Gln Gln His
 2995 3000 3005

Ser Leu Leu Pro Ala Pro Gly Pro Ala Gln Ala Met Ser Leu Pro His
 3010 3015 3020

Glu Gly Ser Ser Pro Ser Leu Ala Gly Ser Gln Gln Gln Leu Ser Leu
 3025 3030 3035 3040

Gly Leu Ala Val Ala Arg Gln Pro Gly Leu Pro Gln Pro Leu Met Pro
 3045 3050 3055

Thr Gln Pro Pro Ala His Ala Leu Gln Gln Arg Leu Ala Pro Ser Met
 3060 3065 3070

Ala Met Val Ser Asn Gln Gly His Met Leu Ser Gly Gln His Gly Gly
 3075 3080 3085

Gln Ala Gly Leu Val Pro Gln Gln Ser Ser Gln Pro Val Leu Ser Gln
 3090 3095 3100

Lys Pro Met Gly Thr Met Pro Pro Ser Met Cys Met Lys Pro Gln Gln
 3105 3110 3115 3120
 Leu Ala Met Gln Gln Gln Leu Ala Asn Ser Phe Phe Pro Asp Thr Asp
 3125 3130 3135
 Leu Asp Lys Phe Ala Ala Glu Asp Ile Ile Gly Pro Ile Ala Lys Ala
 3140 3145 3150
 Lys Met Val Ala Leu Lys Gly Ile Lys Lys Val Met Ala Gln Gly Ser
 3155 3160 3165
 Ile Gly Val Ala Pro Gly Met Asn Arg Gln Gln Val Ser Leu Leu Ala
 3170 3175 3180
 Gln Arg Leu Ser Gly Gly Pro Ser Ser Asp Leu Gln Asn His Val Ala
 3185 3190 3195 3200
 Ala Gly Ser Gly Gln Glu Arg Ser Ala Gly Asp Pro Ser Gln Pro Arg
 3205 3210 3215
 Pro Asn Pro Pro Thr Phe Ala Gln Gly Val Ile Asn Glu Ala Asp Gln
 3220 3225 3230
 Arg Gln Tyr Glu Glu Trp Leu Phe His Thr Gln Gln Leu Leu Gln Met
 3235 3240 3245
 Gln Leu Lys Val Leu Glu Glu Gln Ile Gly Val His Arg Lys Ser Arg
 3250 3255 3260
 Lys Ala Leu Cys Ala Lys Gln Arg Thr Ala Lys Lys Ala Gly Arg Glu
 3265 3270 3275 3280
 Phe Pro Glu Ala Asp Ala Glu Lys Leu Lys Leu Val Thr Glu Gln Gln
 3285 3290 3295
 Ser Lys Ile Gln Lys Gln Leu Asp Gln Val Arg Lys Gln Gln Lys Glu
 3300 3305 3310
 His Thr Asn Leu Met Ala Glu Tyr Arg Asn Lys Gln Gln Gln Gln
 3315 3320 3325
 Gln Gln Gln Gln Gln Gln Gln Gln His Ser Ala Val Leu Ala Leu
 3330 3335 3340
 Ser Pro Ser Gln Ser Pro Arg Leu Leu Thr Lys Leu Pro Gly Gln Leu
 3345 3350 3355 3360

Leu Pro Gly His Gly Leu Gln Pro Pro Gln Gly Pro Pro Gly Gly Gln
 3365 3370 3375
 Ala Gly Gly Leu Arg Leu Thr Pro Gly Gly Met Ala Leu Pro Gly Gln
 3380 3385 3390
 Pro Gly Gly Pro Phe Leu Asn Thr Ala Leu Ala Gln Gln Gln Gln Gln
 3395 3400 3405
 Gln His Ser Gly Gly Ala Gly Ser Leu Ala Gly Pro Ser Gly Gly Phe
 3410 3415 3420
 Phe Pro Gly Asn Leu Ala Leu Arg Ser Leu Gly Pro Asp Ser Arg Leu
 3425 3430 3435 3440
 Leu Gln Glu Arg Gln Leu Gln Leu Gln Gln Gln Arg Met Gln Leu Ala
 3445 3450 3455
 Gln Lys Leu Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln His Leu
 3460 3465 3470
 Leu Gly Gln Val Ala Ile Gln Gln Gln Gln Gln Gln Gly Pro Gly Val
 3475 3480 3485
 Gln Thr Asn Gln Ala Leu Gly Pro Lys Pro Gln Gly Leu Met Pro Pro
 3490 3495 3500
 Ser Ser His Gln Gly Leu Leu Val Gln Gln Leu Ser Pro Gln Pro Pro
 3505 3510 3515 3520
 Gln Gly Pro Gln Gly Met Leu Gly Pro Ala Gln Val Ala Val Leu Gln
 3525 3530 3535
 Gln Gln His Pro Gly Ala Leu Gly Pro Gln Gly Pro His Arg Gln Val
 3540 3545 3550
 Leu Met Thr Gln Ser Arg Val Leu Ser Ser Pro Gln Leu Ala Gln Gln
 3555 3560 3565
 Gly Gln Gly Leu Met Gly His Arg Leu Val Thr Ala Gln Gln Gln Gln
 3570 3575 3580
 Gln Gln Gln Gln His Gln Gln Gln Gly Ser Met Ala Gly Leu Ser His
 3585 3590 3595 3600
 Leu Gln Gln Ser Leu Met Ser His Ser Gly Gln Pro Lys Leu Ser Ala
 3605 3610 3615

Gln Pro Met Gly Ser Leu Gln Gln Leu Gln Gln Gln Gln Leu Gln
 3620 3625 3630

Gln Gln Gln Gln Leu Gln Gln Gln Gln Gln Gln Gln Leu Gln Gln
 3635 3640 3645

Gln Gln Leu Gln Gln Gln Gln Leu Gln Gln Gln Gln Gln Gln Gln
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Leu Gln Gln Gln Gln Gln Gln Gln Leu Gln Gln Gln Gln Gln Leu
 3665 3670 3675 3680

Gln Gln Gln Gln Gln Gln Gln Gln Gln Phe Gln Gln Gln Gln Gln
 3685 3690 3695

Gln Gln Gln Met Gly Leu Leu Asn Gln Ser Arg Thr Leu Leu Ser Pro
 3700 3705 3710

Gln Gln Gln Gln Gln Gln Gln Val Ala Leu Gly Pro Gly Met Pro Ala
 3715 3720 3725

Lys Pro Leu Gln His Phe Ser Ser Pro Gly Ala Leu Gly Pro Thr Leu
 3730 3735 3740

Leu Leu Thr Gly Lys Glu Gln Asn Thr Val Asp Pro Ala Val Ser Ser
 3745 3750 3755 3760

Glu Ala Thr Glu Gly Pro Ser Thr His Gln Gly Gly Pro Leu Ala Ile
 3765 3770 3775

Gly Thr Thr Pro Glu Ser Met Ala Thr Glu Pro Gly Glu Val Lys Pro
 3780 3785 3790

Ser Leu Ser Gly Asp Ser Gln Leu Leu Leu Val Gln Pro Gln Pro Gln
 3795 3800 3805

Pro Gln Pro Ser Ser Leu Gln Leu Gln Pro Pro Leu Arg Leu Pro Gly
 3810 3815 3820

Gln Gln Gln Gln Gln Val Ser Leu Leu His Thr Ala Gly Gly Gly Ser
 3825 3830 3835 3840

His Gly Gln Leu Gly Ser Gly Ser Ser Ser Glu Ala Ser Ser Val Pro
 3845 3850 3855

His Leu Leu Ala Gln Pro Ser Val Ser Leu Gly Asp Gln Pro Gly Ser
 3860 3865 3870

Met Thr Gln Asn Leu Leu Gly Pro Gln Gln Pro Met Leu Glu Arg Pro
 3875 3880 3885

Met Gln Asn Asn Thr Gly Pro Gln Pro Pro Lys Pro Gly Pro Val Leu
 3890 3895 3900

Gln Ser Gly Gln Gly Leu Pro Gly Val Gly Ile Met Pro Thr Val Gly
 3905 3910 3915 3920

Gln Leu Arg Ala Gln Leu Gln Gly Val Leu Ala Lys Asn Pro Gln Leu
 3925 3930 3935

Arg His Leu Ser Pro Gln Gln Gln Gln Gln Leu Gln Ala Leu Leu Met
 3940 3945 3950

Gln Arg Gln Leu Gln Gln Ser Gln Ala Val Arg Gln Thr Pro Pro Tyr
 3955 3960 3965

Gln Glu Pro Gly Thr Gln Thr Ser Pro Leu Gln Gly Leu Leu Gly Cys
 3970 3975 3980

Gln Pro Gln Leu Gly Gly Phe Pro Gly Pro Gln Thr Gly Pro Leu Gln
 3985 3990 3995 4000

Glu Leu Gly Ala Gly Pro Arg Pro Gln Gly Pro Pro Arg Leu Pro Ala
 4005 4010 4015

Pro Pro Gly Ala Leu Ser Thr Gly Pro Val Leu Gly Pro Val His Pro
 4020 4025 4030

Thr Pro Pro Pro Ser Ser Pro Gln Glu Pro Lys Arg Pro Ser Gln Leu
 4035 4040 4045

Pro Ser Pro Ser Ser Gln Leu Pro Thr Glu Ala Gln Leu Pro Pro Thr
 4050 4055 4060

His Pro Gly Thr Pro Lys Pro Gln Gly Pro Thr Leu Glu Pro Pro Pro
 4065 4070 4075 4080

Gly Arg Val Ser Pro Ala Ala Ala Gln Leu Ala Asp Thr Leu Phe Ser
 4085 4090 4095

Lys Gly Leu Gly Pro Trp Asp Pro Pro Asp Asn Leu Ala Glu Thr Gln
 4100 4105 4110

Lys Pro Glu Gln Ser Ser Leu Val Pro Gly His Leu Asp Gln Val Asn
 4115 4120 4125

Gly Gln Val Val Pro Glu Ala Ser Gln Leu Ser Ile Lys Gln Glu Pro
 4130 4135 4140

Arg Glu Glu Pro Cys Ala Leu Gly Ala Gln Ser Val Lys Arg Glu Ala
 4145 4150 4155 4160

Asn Gly Glu Pro Ile Gly Ala Pro Gly Thr Ser Asn His Leu Leu Leu
 4165 4170 4175

Ala Gly Pro Arg Ser Glu Ala Gly His Leu Leu Leu Gln Lys Leu Leu
 4180 4185 4190

Arg Ala Lys Asn Val Gln Leu Ser Thr Gly Gln Gly Ser Glu Gly Leu
 4195 4200 4205

Arg Ala Glu Ile Asn Gly His Ile Asp Ser Lys Leu Ala Gly Leu Glu
 4210 4215 4220

Gln Lys Leu Gln Gly Thr Pro Ser Asn Lys Glu Asp Ala Ala Ala Arg
 4225 4230 4235 4240

Lys Pro Leu Thr Pro Lys Pro Lys Arg Val Gln Lys Ala Ser Asp Arg
 4245 4250 4255

Leu Val Ser Ser Arg Lys Lys Leu Arg Lys Glu Asp Gly Val Arg Ala
 4260 4265 4270

Ser Glu Ala Leu Leu Lys Gln Leu Lys Gln Glu Leu Ser Leu Leu Pro
 4275 4280 4285

Leu Thr Glu Pro Ala Ile Thr Ala Asn Phe Ser Leu Phe Ala Pro Phe
 4290 4295 4300

Gly Ser Gly Cys Pro Val Asn Gly Gln Ser Gln Leu Arg Gly Ala Phe
 4305 4310 4315 4320

Gly Ser Gly Ala Leu Pro Thr Gly Pro Asp Tyr Tyr Ser Gln Leu Leu
 4325 4330 4335

Thr Lys Asn Asn Leu Ser Asn Pro Pro Thr Pro Pro Ser Ser Leu Pro
 4340 4345 4350

Pro Thr Pro Pro Pro Ser Val Gln Gln Lys Met Val Asn Gly Val Thr
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Pro Ser Glu Glu Leu Gly Glu His Pro Lys Asp Ala Ala Ser Ala Arg
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Asp Ser Glu Arg Ala Leu Arg Asp Thr Ser Glu Val Lys Ser Leu Asp
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 Leu Leu Ala Ala Leu Pro Thr Pro Pro His Asn Gln Thr Glu Asp Val
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 Arg Met Glu Ser Asp Glu Asp Ser Asp Ser Pro Asp Ser Ile Val Pro
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 Ala Ser Ser Pro Glu Ser Ile Leu Gly Glu Glu Ala Pro Arg Phe Pro
 4435 4440 4445
 His Leu Gly Ser Gly Arg Trp Glu Gln Glu Asp Arg Ala Leu Ser Pro
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 Val Ile Pro Leu Ile Pro Arg Asp Ser Ile Pro Val Phe Pro Asp Thr
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 Lys Pro Tyr Gly Ala Leu Gly Leu Glu Val Pro Gly Lys Leu Pro Val
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 Thr Thr Trp Glu Lys Gly Lys Gly Ser Glu Val Ser Val Met Leu Thr
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 Glu Gly Pro Gly Gly Lys Glu Lys Gly Leu Glu Gly Lys Ser Pro Asp
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 Thr Gly Pro Asp Trp Leu Lys Gln Phe Asp Ala Val Leu Ala Gly Tyr
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 Thr Leu Lys Arg Gln Leu Asp Ile Leu Ser Leu Leu Lys Gln Glu Ser
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 Arg Ala Arg Pro Pro Glu Glu Gly Glu Asp Thr Arg Pro Pro Arg Leu
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 Lys Lys Trp Lys Gly Val Arg Trp Lys Arg Leu Arg Leu Leu Leu Thr
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 Asp Met Arg Arg Cys Cys Phe Cys His Glu Glu Gly Asp Gly Ala Thr
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 Ala Leu Met Asn Val Glu Val Ala Leu His Arg Gly Leu Leu Thr Lys
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 Arg Cys Pro Asn Val Tyr His Phe Gly Cys Ala Ile Arg Ala Lys Cys
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 Met Phe Phe Lys Asp Lys Thr Met Leu Cys Pro Met His Lys Ile Lys
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 Gly Pro Cys Glu Gln Glu Leu Ser Ser Phe Ala Val Phe Arg Arg Val
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 Tyr Ile Glu Arg Asp Glu Val Lys Gln Ile Ala Ser Ile Ile Gln Arg
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Gly Glu Arg Leu His Met Phe Arg Val Gly Gly Leu Val Phe His Ala			
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Ile Gly Gln Leu Leu Pro His Gln Met Ala Asp Phe His Ser Ala Thr			
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Arg Thr Asn Asn Arg Arg Cys Cys Tyr Arg Cys Ser Ile Gly Glu Asn			
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Asn Gly Arg Pro Glu Phe Val Ile Lys Val Ile Glu Gln Gly Leu Glu			
4965	4970	4975	
Asp Leu Val Phe Thr Asp Ala Ser Pro Gln Ala Val Trp Asn Arg Ile			
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Ile Glu Pro Val Ala Ala Met Arg Lys Glu Ala Asp Met Leu Arg Leu			
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Phe Pro Glu Tyr Leu Lys Gly Glu Glu Leu Phe Gly Leu Thr Val His			
5010	5015	5020	
Ala Val Leu Arg Ile Ala Glu Ser Leu Pro Gly Val Glu Ser Cys Gln			
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Asn Tyr Leu Phe Arg Tyr Gly Arg His Pro Leu Met Glu Leu Pro Leu			
5045	5050	5055	
Met Ile Asn Pro Thr Gly Cys Ala Arg Ser Glu Pro Lys Ile Leu Thr			
5060	5065	5070	
His Tyr Lys Arg Pro His Thr Leu Asn Ser Thr Ser Met Ser Lys Ala			
5075	5080	5085	
Tyr Gln Ser Thr Phe Thr Gly Glu Thr Asn Thr Pro Tyr Ser Lys Gln			
5090	5095	5100	
Phe Val His Ser Lys Ser Ser Gln Tyr Arg Arg Leu Arg Thr Glu Trp			
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Lys Asn Asn Val Tyr Leu Ala Arg Ser Arg Ile Gln Gly Leu Gly Leu			
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Tyr Ala Ala Lys Asp Leu Glu Lys His Thr Met Val Ile Glu Tyr Ile			
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Gly Thr Ile Ile Arg Asn Glu Val Ala Asn Arg Arg Glu Lys Ile Tyr
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Glu Glu Gln Asn Arg Gly Ile Tyr Met Phe Arg Ile Asn Asn Glu His
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Val Ile Asp Ala Thr Leu Thr Gly Gly Pro Ala Arg Tyr Ile Asn His
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Asp Lys Ile Ile Ile Ile Ser Ser Arg Arg Ile Pro Lys Gly Glu Glu
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 <211> 5008
 <212> PRT
 <213> Homo sapiens

<400> 166
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Ser Arg Leu Phe Pro Pro Phe Glu Glu Ser Pro Leu Ser Pro Pro Pro
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Glu Glu Ser Pro Leu Ser Pro Pro Pro Glu Ala Ser Arg Leu Ser Pro
 35 40 45

Pro Pro Glu Asp Ser Pro Met Ser Pro Pro Pro Glu Glu Ser Pro Met
 50 55 60

Ser Pro Pro Pro Glu Val Ser Arg Leu Ser Pro Leu Pro Val Val Ser
 65 70 75 80

Arg Leu Ser Pro Pro Pro Glu Glu Ser Pro Leu Ser Pro Pro Pro Glu
 85 90 95

Glu Ser Pro Thr Ser Pro Pro Pro Glu Ala Ser Arg Leu Ser Pro Pro
 100 105 110

Pro Glu Asp Ser Pro Thr Ser Pro Pro Pro Glu Asp Ser Pro Ala Ser
 115 120 125

Pro Pro Pro Glu Asp Ser Leu Met Ser Leu Pro Leu Glu Glu Ser Pro
 130 135 140

Leu Leu Pro Leu Pro Glu Glu Pro Gln Leu Cys Pro Arg Ser Glu Gly
 145 150 155 160

Pro His Leu Ser Pro Arg Pro Glu Glu Pro His Leu Ser Pro Arg Pro
 165 170 175

Glu Glu Pro His Leu Ser Pro Gln Ala Glu Glu Pro His Leu Ser Pro
 180 185 190

Gln Pro Glu Glu Pro Cys Leu Cys Ala Val Pro Glu Glu Pro His Leu
 195 200 205

Ser Pro Gln Ala Glu Gly Pro His Leu Ser Pro Gln Pro Glu Glu Leu
 210 215 220

His Leu Ser Pro Gln Thr Glu Glu Pro His Leu Ser Pro Val Pro Glu
 225 230 235 240

Glu Pro Cys Leu Ser Pro Gln Pro Glu Glu Ser His Leu Ser Pro Gln
 245 250 255

Ser Glu Glu Pro Cys Leu Ser Pro Arg Pro Glu Glu Ser His Leu Ser
 260 265 270

Pro Glu Leu Glu Lys Pro Pro Leu Ser Pro Arg Pro Glu Lys Pro Pro
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Glu Glu Pro Gly Gln Cys Pro Ala Pro Glu Glu Leu Pro Leu Phe Pro
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Pro Pro Gly Glu Pro Ser Leu Ser Pro Leu Leu Gly Glu Pro Ala Leu
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Ser Glu Pro Gly Glu Pro Pro Leu Ser Pro Leu Pro Glu Glu Leu Pro
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Leu Ser Pro Ser Gly Glu Pro Ser Leu Ser Pro Gln Leu Met Pro Pro
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Asp Pro Leu Pro Pro Pro Leu Ser Pro Ile Ile Thr Ala Ala Ala Pro
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Pro Ala Leu Ser Pro Leu Gly Glu Leu Glu Tyr Pro Phe Gly Ala Lys
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Gly Asp Ser Asp Pro Glu Ser Pro Leu Ala Ala Pro Ile Leu Glu Thr
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Pro Ile Ser Pro Pro Pro Glu Ala Asn Cys Thr Asp Pro Glu Pro Val
 405 410 415

Pro Pro Met Ile Leu Pro Pro Ser Pro Gly Ser Pro Val Gly Pro Ala
 420 425 430

Ser Pro Ile Leu Met Glu Pro Leu Pro Pro Gln Cys Ser Pro Leu Leu
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Gln His Ser Leu Val Pro Gln Asn Ser Pro Pro Ser Gln Cys Ser Pro
 450 455 460

Pro Ala Leu Pro Leu Ser Val Pro Ser Pro Leu Ser Pro Ile Gly Lys
 465 470 475 480

Val Val Gly Val Ser Asp Glu Ala Glu Leu His Glu Met Glu Thr Glu
 485 490 495

Lys Val Ser Glu Pro Glu Cys Pro Ala Leu Glu Pro Ser Ala Thr Ser
 500 505 510

Pro Leu Pro Ser Pro Met Gly Asp Leu Ser Cys Pro Ala Pro Ser Pro
 515 520 525

Ala Pro Ala Leu Asp Asp Phe Ser Gly Leu Gly Glu Asp Thr Ala Pro
 530 535 540

Leu Asp Gly Ile Asp Ala Pro Gly Ser Gln Pro Glu Pro Gly Gln Thr
 545 550 555 560

Pro Gly Ser Leu Ala Ser Glu Leu Lys Gly Ser Pro Val Leu Leu Asp
 565 570 575

Pro Glu Glu Leu Ala Pro Val Thr Pro Met Glu Val Tyr Pro Glu Cys
 580 585 590

Lys Gln Thr Ala Gly Arg Gly Ser Pro Cys Glu Glu Gln Glu Glu Pro
 595 600 605

Arg Ala Pro Val Ala Pro Thr Pro Pro Thr Leu Ile Lys Ser Asp Ile
 610 615 620

Val Asn Glu Ile Ser Asn Leu Ser Gln Gly Asp Ala Ser Ala Ser Phe
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 Pro Gly Ser Glu Pro Leu Leu Gly Ser Pro Asp Pro Glu Gly Gly Gly
 645 650 655
 Ser Leu Ser Met Glu Leu Gly Val Ser Thr Asp Val Ser Pro Ala Arg
 660 665 670
 Asp Glu Gly Ser Leu Arg Leu Cys Thr Asp Ser Leu Pro Glu Thr Asp
 675 680 685
 Asp Ser Leu Leu Cys Asp Ala Gly Thr Ala Ile Ser Gly Gly Lys Ala
 690 695 700
 Glu Gly Glu Lys Gly Arg Arg Arg Ser Ser Pro Ala Arg Ser Arg Ile
 705 710 715 720
 Lys Gln Gly Arg Ser Ser Ser Phe Pro Gly Arg Arg Arg Pro Arg Gly
 725 730 735
 Gly Ala His Gly Gly Arg Gly Arg Gly Arg Ala Arg Leu Lys Ser Thr
 740 745 750
 Ala Ser Ser Ile Glu Thr Leu Val Val Ala Asp Ile Asp Ser Ser Pro
 755 760 765
 Ser Lys Glu Glu Glu Glu Glu Asp Asp Asp Thr Met Gln Asn Thr Val
 770 775 780
 Val Leu Phe Ser Asn Thr Asp Lys Phe Val Leu Met Gln Asp Met Cys
 785 790 795 800
 Val Val Cys Gly Ser Phe Gly Arg Gly Ala Glu Gly His Leu Leu Ala
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 Cys Ser Gln Cys Ser Gln Cys Tyr His Pro Tyr Cys Val Asn Ser Lys
 820 825 830
 Ile Thr Lys Val Met Leu Leu Lys Gly Trp Arg Cys Val Glu Cys Ile
 835 840 845
 Val Cys Glu Val Cys Gly Gln Ala Ser Asp Pro Ser Arg Leu Leu Leu
 850 855 860
 Cys Asp Asp Cys Asp Ile Ser Tyr His Thr Tyr Cys Leu Asp Pro Pro
 865 870 875 880

Leu Leu Thr Val Pro Lys Gly Gly Trp Lys Cys Lys Trp Cys Val Ser
 885 890 895
 Cys Met Gln Cys Gly Ala Ala Ser Pro Gly Phe His Cys Glu Trp Gln
 900 905 910
 Asn Ser Tyr Thr His Cys Gly Pro Cys Ala Ser Leu Val Thr Cys Pro
 915 920 925
 Ile Cys His Ala Pro Tyr Val Glu Glu Asp Leu Leu Ile Gln Cys Arg
 930 935 940
 His Cys Glu Arg Trp Met His Ala Gly Cys Glu Ser Leu Phe Thr Glu
 945 950 955 960
 Asp Asp Val Asp His Ala Pro Asp Glu Gly Phe Asp Cys Val Ser Cys
 965 970 975
 Gln Pro Tyr Val Val Lys Pro Val Ala Pro Val Ala Pro Pro Glu Leu
 980 985 990
 Val Pro Met Lys Val Lys Glu Pro Glu Pro Gln Tyr Phe Arg Phe Glu
 995 1000 1005
 Gly Val Trp Leu Thr Glu Thr Gly Met Ala Leu Leu Arg Asn Leu Thr
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 Met Ser Pro Leu His Lys Arg Arg Gln Arg Arg Gly Arg Leu Gly Leu
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 Pro Gly Glu Ala Gly Leu Glu Gly Ser Glu Pro Ser Asp Ala Leu Gly
 1045 1050 1055
 Pro Asp Asp Lys Lys Asp Gly Asp Leu Asp Thr Asp Glu Leu Leu Lys
 1060 1065 1070
 Gly Glu Gly Gly Val Glu His Met Glu Cys Glu Ile Lys Leu Glu Gly
 1075 1080 1085
 Pro Val Ser Pro Asp Val Glu Pro Gly Lys Glu Glu Thr Glu Glu Ser
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 Lys Lys Arg Lys Arg Lys Pro Tyr Arg Pro Gly Ile Gly Gly Phe Met
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 Val Arg Gln Arg Lys Ser His Thr Arg Thr Lys Lys Gly Pro Ala Ala
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Gln Ala Glu Val Leu Ser Gly Asp Gly Gln Pro Asp Glu Val Ile Pro
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 Ala Asp Leu Pro Ala Glu Gly Ala Val Glu Gln Ser Leu Ala Glu Gly
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 Asp Glu Lys Lys Lys Gln Gln Arg Arg Gly Arg Lys Arg Ser Gly Pro
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 Ala Ala Gln Ala Glu Val Leu Ser Gly Asp Gly Gln Pro Asp Glu Val
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 Ile Pro Ala Asp Leu Pro Ala Glu Gly Ala Val Glu Gln Ser Leu Ala
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 Phe Phe Ala Gln Leu Ala Gly Glu Thr Thr Leu Asp Gly Gln Pro Ile
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 Gly Pro Glu Asp Gly Gly Val Lys Ala Ser Pro Val Pro Ser Asp Pro
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 Glu Lys Pro Gly Thr Pro Gly Glu Gly Met Leu Ser Ser Asp Leu Asp
 1380 1385 1390

Arg Ile Ser Thr Glu Glu Leu Pro Lys Met Glu Ser Lys Asp Leu Gln
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 Gln Leu Phe Lys Asp Val Leu Gly Ser Glu Arg Glu Gln His Leu Gly
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 Cys Gly Thr Pro Gly Leu Glu Gly Ser Arg Thr Pro Leu Gln Arg Pro
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 Phe Leu Gln Gly Gly Leu Pro Leu Gly Asn Leu Pro Ser Ser Ser Pro
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 Met Asp Ser Tyr Pro Gly Leu Cys Gln Ser Pro Phe Leu Asp Ser Arg
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 Glu Arg Gly Gly Phe Phe Ser Pro Glu Pro Gly Glu Pro Asp Ser Pro
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 Trp Thr Gly Ser Gly Gly Thr Thr Pro Ser Thr Pro Thr Thr Pro Thr
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 Val Leu Tyr Ala Asn Ile Asn Phe Pro Asn Leu Lys Gln Asp Tyr Pro
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 Ala Ala His Arg Ile Asn Lys Val Gln Lys Gln Ala Glu Ser Gln Ile
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 Ala Leu His Leu Arg Ile Pro Pro Gln Pro Gly Ala Leu Gly Ser Pro
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 Pro Pro Ala Ala Ala Pro Thr Ile Phe Ile Gly Ser Pro Thr Thr Pro
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Ala Gly Leu Ser Thr Ser Ala Asp Gly Phe Leu Lys Pro Pro Ala Gly
 1650 1655 1660

Ser Val Pro Gly Pro Asp Ser Pro Gly Glu Leu Phe Leu Lys Leu Pro
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Pro Gln Val Pro Ala Gln Ala Pro Ser Gln Asp Pro Phe Gly Leu Ala
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Pro Ala Tyr Pro Leu Glu Pro Arg Phe Pro Thr Ala Pro Pro Thr Tyr
 1700 1705 1710

Pro Pro Tyr Pro Ser Pro Thr Gly Ala Pro Ala Gln Pro Pro Met Leu
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Gly Ala Ser Ser Arg Pro Gly Ala Gly Gln Pro Gly Glu Phe His Thr
 1730 1735 1740

Thr Pro Pro Gly Thr Pro Arg His Gln Pro Ser Thr Pro Asp Pro Phe
 1745 1750 1755 1760

Leu Lys Pro Arg Cys Pro Ser Leu Asp Asn Leu Ala Val Pro Glu Ser
 1765 1770 1775

Pro Gly Val Gly Gly Gly Lys Ala Ser Glu Pro Leu Leu Ser Pro Pro
 1780 1785 1790

Pro Phe Gly Glu Ser Arg Lys Ala Leu Glu Val Lys Lys Glu Glu Leu
 1795 1800 1805

Gly Ala Ser Ser Pro Ser Tyr Gly Pro Pro Asn Leu Gly Phe Val Asp
 1810 1815 1820

Ser Pro Ser Ser Gly Thr His Leu Gly Gly Leu Glu Leu Lys Thr Pro
 1825 1830 1835 1840

Asp Val Phe Lys Ala Pro Leu Thr Pro Arg Ala Ser Gln Val Glu Pro
 1845 1850 1855

Gln Ser Pro Gly Leu Gly Leu Arg Pro Gln Glu Pro Pro Pro Ala Gln
 1860 1865 1870

Ser Leu Pro Ser Asp Pro Phe Ser Arg Val Pro Val Ser Pro Gln Ser
 1875 1880 1885

Gln Ser Ser Ser Gln Ser Pro Leu Thr Pro Arg Pro Leu Ser Ala Glu
 1890 1895 1900

Ala Phe Cys Pro Ser Pro Val Thr Pro Arg Phe Gln Ser Pro Asp Pro
 1905 1910 1915 1920
 Tyr Ser Arg Pro Pro Ser Arg Pro Gln Ser Arg Asp Pro Phe Ala Pro
 1925 1930 1935
 Leu His Lys Pro Pro Arg Pro Gln Pro Pro Glu Val Ala Phe Lys Ala
 1940 1945 1950
 Gly Ser Leu Ala His Thr Ser Leu Gly Ala Gly Gly Phe Pro Ala Ala
 1955 1960 1965
 Leu Pro Ala Gly Pro Ala Gly Glu Leu His Ala Lys Val Pro Ser Gly
 1970 1975 1980
 Gln Pro Pro Asn Phe Val Arg Ser Pro Gly Thr Gly Ala Phe Val Gly
 1985 1990 1995 2000
 Thr Pro Ser Pro Met Arg Phe Thr Phe Pro Gln Ala Val Gly Glu Pro
 2005 2010 2015
 Ser Leu Lys Pro Pro Val Pro Gln Pro Gly Leu Pro Pro Pro His Gly
 2020 2025 2030
 Ile Asn Ser His Phe Gly Pro Gly Pro Thr Leu Gly Lys Pro Gln Ser
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 Thr Asn Tyr Thr Val Ala Thr Gly Asn Phe His Pro Ser Gly Ser Pro
 2050 2055 2060
 Leu Gly Pro Ser Ser Gly Ser Thr Gly Glu Ser Tyr Gly Leu Ser Pro
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 Val Glu Lys Arg Glu Asp Pro Gly Thr Gly Met Gly Ser Ser Leu Ala
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 Gln Thr Glu Leu Glu Lys Gln Arg Gln Arg Gln Arg Leu Arg Glu Leu
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 Val Asn Ser Arg Gln Leu Val Gly Gly Ser Gln Ala Phe Tyr Gln Arg
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 Ala Pro Tyr Pro Gly Ser Leu Pro Leu Gln Gln Gln Gln Gln Leu
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 Trp Gln Gln Gln Gln Ala Thr Ala Ala Thr Ser Met Arg Phe Ala Met
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 Ser Ala Arg Phe Pro Ser Thr Pro Gly Pro Glu Leu Gly Arg Gln Ala
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 Glu Pro Val Pro Gly Pro Ala Gly Pro Ala Gln Phe Ile Glu Leu Arg
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 His Asn Val Gln Lys Gly Leu Gly Pro Gly Gly Thr Pro Phe Pro Gly
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 Gln Gly Pro Pro Gln Arg Pro Arg Phe Tyr Pro Val Ser Glu Asp Pro
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 His Arg Leu Ala Pro Glu Gly Leu Arg Gly Leu Ala Val Ser Gly Leu
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 Pro Pro Gln Lys Pro Ser Ala Pro Pro Ala Pro Glu Leu Asn Asn Ser
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Leu His Pro Thr Pro His Thr Lys Gly Pro Thr Leu Pro Thr Gly Leu
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Glu Leu Val Asn Arg Pro Pro Ser Ser Thr Glu Leu Gly Arg Pro Asn
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Pro Leu Ala Leu Glu Ala Gly Lys Leu Pro Cys Glu Asp Pro Glu Leu
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Asp Asp Asp Phe Asp Ala His Lys Ala Leu Glu Asp Asp Glu Glu Leu
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Gly Thr Leu Glu Asn Leu Glu Thr Asn Asp Pro His Leu Asp Asp Leu
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Asp Thr Gly Asp Lys Lys Asp Ile Phe Asn Glu His Leu Arg Leu Val
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Glu Ser Ala Asn Glu Glu Ala Glu Arg Glu Ala Leu Leu Arg Gly Val
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Glu Pro Gly Pro Leu Gly Pro Glu Glu Arg Pro Pro Pro Ala Ala Asp
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Ala Ser Glu Pro Arg Leu Ala Ser Val Leu Pro Glu Val Lys Pro Lys
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Val Glu Glu Gly Gly Arg His Pro Ser Pro Cys Gln Phe Thr Ile Ala
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Thr Pro Lys Val Glu Pro Ala Pro Ala Ala Asn Ser Leu Gly Leu Gly
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Leu Lys Pro Gly Gln Ser Met Met Gly Ser Arg Asp Thr Arg Met Gly
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 Ser Gln Lys Pro Met Gly Thr Met Pro Pro Ser Met Cys Met Lys Pro
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Leu Ala Gln Arg Leu Ser Gly Gly Pro Ser Ser Asp Leu Gln Asn His
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Val Ala Ala Gly Ser Gly Gln Glu Arg Ser Ala Gly Asp Pro Ser Gln
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Pro Arg Pro Asn Pro Pro Thr Phe Ala Gln Gly Val Ile Asn Glu Ala
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Gln Met Gln Leu Lys Val Leu Glu Glu Gln Ile Gly Val His Arg Lys
2995 3000 3005

Ser Arg Lys Ala Leu Cys Ala Lys Gln Arg Thr Ala Lys Lys Ala Gly
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Lys Glu His Thr Asn Leu Met Ala Glu Tyr Arg Asn Lys Gln Gln Gln
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Gly Gln Pro Gly Gly Pro Phe Leu Asn Thr Ala Leu Ala Gln Gln Gln
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Gln Gln Gln His Ser Gly Gly Ala Gly Ser Leu Ala Gly Pro Ser Gly
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Gly Phe Phe Pro Gly Asn Leu Ala Leu Arg Ser Leu Gly Pro Asp Ser
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Arg Leu Leu Gln Glu Arg Gln Leu Gln Leu Gln Gln Gln Arg Met Gln
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 Leu Ala Gln Lys Leu Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln
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 His Leu Leu Gly Gln Val Ala Ile Gln Gln Gln Gln Gln Gln Gly Pro
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 Gly Val Gln Thr Asn Gln Ala Leu Gly Pro Lys Pro Gln Gly Leu Met
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 Gln Gln Leu Gln Gln Gln Gln Gln Gln Gln Leu Gln Gln Gln Gln
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 Gln Leu Gln Gln Gln Gln Gln Gln Gln Gln Gln Phe Gln Gln Gln
 3425 3430 3435 3440

Gln Gln Gln Gln Gln Met Gly Leu Leu Asn Gln Ser Arg Thr Leu Leu
 3445 3450 3455
 Ser Pro Gln Gln Gln Gln Gln Gln Val Ala Leu Gly Pro Gly Met
 3460 3465 3470
 Pro Ala Lys Pro Leu Gln His Phe Ser Ser Pro Gly Ala Leu Gly Pro
 3475 3480 3485
 Thr Leu Leu Leu Thr Gly Lys Glu Gln Asn Thr Val Asp Pro Ala Val
 3490 3495 3500
 Ser Ser Glu Ala Thr Glu Gly Pro Ser Thr His Gln Gly Gly Pro Leu
 3505 3510 3515 3520
 Ala Ile Gly Thr Thr Pro Glu Ser Met Ala Thr Glu Pro Gly Glu Val
 3525 3530 3535
 Lys Pro Ser Leu Ser Gly Asp Ser Gln Leu Leu Leu Val Gln Pro Gln
 3540 3545 3550
 Pro Gln Pro Gln Pro Ser Ser Leu Gln Leu Gln Pro Pro Leu Arg Leu
 3555 3560 3565
 Pro Gly Gln Gln Gln Gln Gln Val Ser Leu Leu His Thr Ala Gly Gly
 3570 3575 3580
 Gly Ser His Gly Gln Leu Gly Ser Gly Ser Ser Ser Glu Ala Ser Ser
 3585 3590 3595 3600
 Val Pro His Leu Leu Ala Gln Pro Ser Val Ser Leu Gly Asp Gln Pro
 3605 3610 3615
 Gly Ser Met Thr Gln Asn Leu Leu Gly Pro Gln Gln Pro Met Leu Glu
 3620 3625 3630
 Arg Pro Met Gln Asn Asn Thr Gly Pro Gln Pro Pro Lys Pro Gly Pro
 3635 3640 3645
 Val Leu Gln Ser Gly Gln Gly Leu Pro Gly Val Gly Ile Met Pro Thr
 3650 3655 3660
 Val Gly Gln Leu Arg Ala Gln Leu Gln Gly Val Leu Ala Lys Asn Pro
 3665 3670 3675 3680
 Gln Leu Arg His Leu Ser Pro Gln Gln Gln Gln Gln Leu Gln Ala Leu
 3685 3690 3695

Leu Met Gln Arg Gln Leu Gln Gln Ser Gln Ala Val Arg Gln Thr Pro
 3700 3705 3710
 Pro Tyr Gln Glu Pro Gly Thr Gln Thr Ser Pro Leu Gln Gly Leu Leu
 3715 3720 3725
 Gly Cys Gln Pro Gln Leu Gly Gly Phe Pro Gly Pro Gln Thr Gly Pro
 3730 3735 3740
 Leu Gln Glu Leu Gly Ala Gly Pro Arg Pro Gln Gly Pro Pro Arg Leu
 3745 3750 3755 3760
 Pro Ala Pro Pro Gly Ala Leu Ser Thr Gly Pro Val Leu Gly Pro Val
 3765 3770 3775
 His Pro Thr Pro Pro Pro Ser Ser Pro Gln Glu Pro Lys Arg Pro Ser
 3780 3785 3790
 Gln Leu Pro Ser Pro Ser Ser Gln Leu Pro Thr Glu Ala Gln Leu Pro
 3795 3800 3805
 Pro Thr His Pro Gly Thr Pro Lys Pro Gln Gly Pro Thr Leu Glu Pro
 3810 3815 3820
 Pro Pro Gly Arg Val Ser Pro Ala Ala Ala Gln Leu Ala Asp Thr Leu
 3825 3830 3835 3840
 Phe Ser Lys Gly Leu Gly Pro Trp Asp Pro Pro Asp Asn Leu Ala Glu
 3845 3850 3855
 Thr Gln Lys Pro Glu Gln Ser Ser Leu Val Pro Gly His Leu Asp Gln
 3860 3865 3870
 Val Asn Gly Gln Val Val Pro Glu Ala Ser Gln Leu Ser Ile Lys Gln
 3875 3880 3885
 Glu Pro Arg Glu Glu Pro Cys Ala Leu Gly Ala Gln Ser Val Lys Arg
 3890 3895 3900
 Glu Ala Asn Gly Glu Pro Ile Gly Ala Pro Gly Thr Ser Asn His Leu
 3905 3910 3915 3920
 Leu Leu Ala Gly Pro Arg Ser Glu Ala Gly His Leu Leu Leu Gln Lys
 3925 3930 3935
 Leu Leu Arg Ala Lys Asn Val Gln Leu Ser Thr Gly Gln Gly Ser Glu
 3940 3945 3950

Gly Leu Arg Ala Glu Ile Asn Gly His Ile Asp Ser Lys Leu Ala Gly
 3955 3960 3965
 Leu Glu Gln Lys Leu Gln Gly Thr Pro Ser Asn Lys Glu Asp Ala Ala
 3970 3975 3980
 Ala Arg Lys Pro Leu Thr Pro Lys Pro Lys Arg Val Gln Lys Ala Ser
 3985 3990 3995 4000
 Asp Arg Leu Val Ser Ser Arg Lys Lys Leu Arg Lys Glu Asp Gly Val
 4005 4010 4015
 Arg Ala Ser Glu Ala Leu Leu Lys Gln Leu Lys Gln Glu Leu Ser Leu
 4020 4025 4030
 Leu Pro Leu Thr Glu Pro Ala Ile Thr Ala Asn Phe Ser Leu Phe Ala
 4035 4040 4045
 Pro Phe Gly Ser Gly Cys Pro Val Asn Gly Gln Ser Gln Leu Arg Gly
 4050 4055 4060
 Ala Phe Gly Ser Gly Ala Leu Pro Thr Gly Pro Asp Tyr Tyr Ser Gln
 4065 4070 4075 4080
 Leu Leu Thr Lys Asn Asn Leu Ser Asn Pro Pro Thr Pro Pro Ser Ser
 4085 4090 4095
 Leu Pro Pro Thr Pro Pro Pro Ser Val Gln Gln Lys Met Val Asn Gly
 4100 4105 4110
 Val Thr Pro Ser Glu Glu Leu Gly Glu His Pro Lys Asp Ala Ala Ser
 4115 4120 4125
 Ala Arg Asp Ser Glu Arg Ala Leu Arg Asp Thr Ser Glu Val Lys Ser
 4130 4135 4140
 Leu Asp Leu Leu Ala Ala Leu Pro Thr Pro Pro His Asn Gln Thr Glu
 4145 4150 4155 4160
 Asp Val Arg Met Glu Ser Asp Glu Asp Ser Asp Ser Pro Asp Ser Ile
 4165 4170 4175
 Val Pro Ala Ser Ser Pro Glu Ser Ile Leu Gly Glu Glu Ala Pro Arg
 4180 4185 4190
 Phe Pro His Leu Gly Ser Gly Arg Trp Glu Gln Glu Asp Arg Ala Leu
 4195 4200 4205

Ser Pro Val Ile Pro Leu Ile Pro Arg Asp Ser Ile Pro Val Phe Pro
4210 4215 4220

Asp Thr Lys Pro Tyr Gly Ala Leu Gly Leu Glu Val Pro Gly Lys Leu
4225 4230 4235 4240

Pro Val Thr Thr Trp Glu Lys Gly Lys Gly Ser Glu Val Ser Val Met
4245 4250 4255

Leu Thr Val Ser Ala Ala Ala Asp Lys Asn Leu Asn Gly Val Met Val
4260 4265 4270

Ala Val Ala Glu Leu Leu Ser Met Lys Ile Pro Asn Ser Tyr Glu Val
4275 4280 4285

Leu Phe Pro Glu Ser Pro Ala Arg Gly Gly Thr Glu Pro Lys Lys Gly
4290 4295 4300

Glu Ala Glu Gly Pro Gly Gly Lys Glu Lys Gly Leu Glu Gly Lys Ser
4305 4310 4315 4320

Pro Asp Thr Gly Pro Asp Trp Leu Lys Gln Phe Asp Ala Val Leu Ala
4325 4330 4335

Gly Tyr Thr Leu Lys Arg Gln Leu Asp Ile Leu Ser Leu Leu Lys Gln
4340 4345 4350

Glu Ser Pro Ala Pro Glu Pro Pro Thr Gln His Arg Tyr Thr Tyr Asn
4355 4360 4365

Val Ser Asn Leu Asp Val Arg Gln Leu Ser Ala Pro Pro Pro Glu Glu
4370 4375 4380

Pro Ser Pro Pro Pro Ser Pro Leu Ala Pro Ser Pro Ala Ser Pro Pro
4385 4390 4395 4400

Thr Glu Pro Leu Val Glu Leu Pro Thr Glu Pro Leu Ala Glu Pro Pro
4405 4410 4415

Val Pro Ser Pro Leu Pro Leu Ala Ser Ser Pro Glu Ser Ala Arg Pro
4420 4425 4430

Lys Pro Arg Ala Arg Pro Pro Glu Glu Gly Glu Asp Thr Arg Pro Pro
4435 4440 4445

Arg Leu Lys Lys Trp Lys Gly Val Arg Trp Lys Arg Leu Arg Leu Leu
4450 4455 4460

Leu Thr Ile Gln Lys Gly Ser Gly Arg Gln Glu Asp Glu Arg Glu Val
 4465 4470 4475 4480

Ala Glu Phe Met Glu Gln Leu Gly Thr Ala Leu Arg Pro Asp Lys Val
 4485 4490 4495

Pro Arg Asp Met Arg Arg Cys Cys Phe Cys His Glu Glu Gly Asp Gly
 4500 4505 4510

Ala Thr Asp Gly Pro Ala Arg Leu Leu Asn Leu Asp Leu Asp Leu Trp
 4515 4520 4525

Val His Leu Asn Cys Ala Leu Trp Ser Thr Glu Val Tyr Glu Thr Gln
 4530 4535 4540

Gly Gly Ala Leu Met Asn Val Glu Val Ala Leu His Arg Gly Leu Leu
 4545 4550 4555 4560

Thr Lys Cys Ser Leu Cys Gln Arg Thr Gly Ala Thr Ser Ser Cys Asn
 4565 4570 4575

Arg Met Arg Cys Pro Asn Val Tyr His Phe Gly Cys Ala Ile Arg Ala
 4580 4585 4590

Lys Cys Met Phe Phe Lys Asp Lys Thr Met Leu Cys Pro Met His Lys
 4595 4600 4605

Ile Lys Gly Pro Cys Glu Gln Glu Leu Ser Ser Phe Ala Val Phe Arg
 4610 4615 4620

Arg Val Tyr Ile Glu Arg Asp Glu Val Lys Gln Ile Ala Ser Ile Ile
 4625 4630 4635 4640

Gln Arg Gly Glu Arg Leu His Met Phe Arg Val Gly Gly Leu Val Phe
 4645 4650 4655

His Ala Ile Gly Gln Leu Leu Pro His Gln Met Ala Asp Phe His Ser
 4660 4665 4670

Ala Thr Ala Leu Tyr Pro Val Gly Tyr Glu Ala Thr Arg Ile Tyr Trp
 4675 4680 4685

Ser Leu Arg Thr Asn Asn Arg Arg Cys Cys Tyr Arg Cys Ser Ile Gly
 4690 4695 4700

Glu Asn Asn Gly Arg Pro Glu Phe Val Ile Lys Val Ile Glu Gln Gly
 4705 4710 4715 4720

Leu Glu Asp Leu Val Phe Thr Asp Ala Ser Pro Gln Ala Val Trp Asn
 4725 4730 4735

Arg Ile Ile Glu Pro Val Ala Ala Met Arg Lys Glu Ala Asp Met Leu
 4740 4745 4750

Arg Leu Phe Pro Glu Tyr Leu Lys Gly Glu Glu Leu Phe Gly Leu Thr
 4755 4760 4765

Val His Ala Val Leu Arg Ile Ala Glu Ser Leu Pro Gly Val Glu Ser
 4770 4775 4780

Cys Gln Asn Tyr Leu Phe Arg Tyr Gly Arg His Pro Leu Met Glu Leu
 4785 4790 4795 4800

Pro Leu Met Ile Asn Pro Thr Gly Cys Ala Arg Ser Glu Pro Lys Ile
 4805 4810 4815

Leu Thr His Tyr Lys Arg Pro His Thr Leu Asn Ser Thr Ser Met Ser
 4820 4825 4830

Lys Ala Tyr Gln Ser Thr Phe Thr Gly Glu Thr Asn Thr Pro Tyr Ser
 4835 4840 4845

Lys Gln Phe Val His Ser Lys Ser Ser Gln Tyr Arg Arg Leu Arg Thr
 4850 4855 4860

Glu Trp Lys Asn Asn Val Tyr Leu Ala Arg Ser Arg Ile Gln Gly Leu
 4865 4870 4875 4880

Gly Leu Tyr Ala Ala Lys Asp Leu Glu Lys His Thr Met Val Ile Glu
 4885 4890 4895

Tyr Ile Gly Thr Ile Ile Arg Asn Glu Val Ala Asn Arg Arg Glu Lys
 4900 4905 4910

Ile Tyr Glu Glu Gln Asn Arg Gly Ile Tyr Met Phe Arg Ile Asn Asn
 4915 4920 4925

Glu His Val Ile Asp Ala Thr Leu Thr Gly Gly Pro Ala Arg Tyr Ile
 4930 4935 4940

Asn His Ser Cys Ala Pro Asn Cys Val Ala Glu Val Val Thr Phe Asp
 4945 4950 4955 4960

Lys Glu Asp Lys Ile Ile Ile Ile Ser Ser Arg Arg Ile Pro Lys Gly
 4965 4970 4975

Glu Glu Leu Thr Tyr Asp Tyr Gln Phe Asp Phe Glu Asp Asp Gln His
 4980 4985 4990

Glu Ile Pro Cys His Cys Gly Ala Trp Asn Cys Arg Lys Trp Met Asn
 4995 5000 5005

<210> 167
 <211> 5262
 <212> PRT
 <213> Homo sapiens

<400> 167
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 1 5 10 15

Ala Asp Gly Pro Ala Ala Ser Glu Asp Pro Ser Ala Thr Glu Ser Asp
 20 25 30

Leu Pro Asn Pro His Val Gly Glu Val Ser Val Leu Ser Ser Gly Ser
 35 40 45

Pro Arg Leu Gln Glu Thr Pro Gln Asp Cys Ser Gly Gly Pro Val Arg
 50 55 60

Arg Cys Ala Leu Cys Asn Cys Gly Glu Pro Ser Leu His Gly Gln Arg
 65 70 75 80

Glu Leu Arg Arg Phe Glu Leu Pro Phe Asp Trp Pro Arg Cys Pro Val
 85 90 95

Val Ser Pro Gly Gly Ser Pro Gly Pro Asn Glu Ala Val Leu Pro Ser
 100 105 110

Glu Asp Leu Ser Gln Ile Gly Phe Pro Glu Gly Leu Thr Pro Ala His
 115 120 125

Leu Gly Glu Pro Gly Gly Ser Cys Trp Ala His His Trp Cys Ala Ala
 130 135 140

Trp Ser Ala Gly Val Trp Gly Gln Glu Gly Pro Glu Leu Cys Gly Val
 145 150 155 160

Asp Lys Ala Ile Phe Ser Gly Ile Ser Gln Arg Cys Ser His Cys Thr

165 170 175
 Arg Leu Gly Ala Ser Ile Pro Cys Arg Ser Pro Gly Cys Pro Arg Leu
 180 185 190
 Tyr His Phe Pro Cys Ala Thr Ala Ser Gly Ser Phe Leu Ser Met Lys
 195 200 205
 Thr Leu Gln Leu Leu Cys Pro Glu His Ser Glu Gly Ala Ala Tyr Leu
 210 215 220
 Glu Glu Ala Arg Cys Ala Val Cys Glu Gly Pro Gly Glu Leu Cys Asp
 225 230 235 240
 Leu Phe Phe Cys Thr Ser Cys Gly His His Tyr His Gly Ala Cys Leu
 245 250 255
 Asp Thr Ala Leu Thr Ala Arg Lys Arg Ala Gly Trp Gln Cys Pro Glu
 260 265 270
 Cys Lys Val Cys Gln Ala Cys Arg Lys Pro Gly Asn Asp Ser Lys Met
 275 280 285
 Leu Val Cys Glu Thr Cys Asp Lys Gly Tyr His Thr Phe Cys Leu Lys
 290 295 300
 Pro Pro Met Glu Glu Leu Pro Ala His Ser Trp Lys Cys Lys Ala Cys
 305 310 315 320
 Arg Val Cys Arg Ala Cys Gly Ala Gly Ser Ala Glu Leu Asn Pro Asn
 325 330 335
 Ser Glu Trp Phe Glu Asn Tyr Ser Leu Cys His Arg Cys His Lys Ala
 340 345 350
 Gln Gly Gly Gln Thr Ile Arg Ser Val Ala Glu Gln His Thr Pro Val
 355 360 365
 Cys Ser Arg Phe Ser Pro Pro Glu Pro Gly Asp Thr Pro Thr Asp Glu
 370 375 380
 Pro Asp Ala Leu Tyr Val Ala Cys Gln Gly Gln Pro Lys Gly Gly His
 385 390 395 400
 Val Thr Ser Met Gln Pro Lys Glu Pro Gly Pro Leu Gln Cys Glu Ala
 405 410 415
 Lys Pro Leu Gly Lys Ala Gly Val Gln Leu Glu Pro Gln Leu Glu Ala

420	425	430
Pro Leu Asn Glu Glu Met Pro Leu Leu Pro Pro Pro Glu Glu Ser Pro		
435	440	445
Leu Ser Pro Pro Pro Glu Glu Ser Pro Thr Ser Pro Pro Pro Glu Ala		
450	455	460
Ser Arg Leu Ser Pro Pro Pro Glu Glu Leu Pro Ala Ser Pro Leu Pro		
465	470	475
Glu Ala Leu His Leu Ser Arg Pro Leu Glu Glu Ser Pro Leu Ser Pro		
485	490	495
Pro Pro Glu Glu Ser Pro Leu Ser Pro Pro Pro Glu Ser Ser Pro Phe		
500	505	510
Ser Pro Leu Glu Glu Ser Pro Leu Ser Pro Pro Glu Glu Ser Pro Pro		
515	520	525
Ser Pro Ala Leu Glu Thr Pro Leu Ser Pro Pro Pro Glu Ala Ser Pro		
530	535	540
Leu Ser Pro Pro Phe Glu Glu Ser Pro Leu Ser Pro Pro Pro Glu Glu		
545	550	555
Leu Pro Thr Ser Pro Pro Pro Glu Ala Ser Arg Leu Ser Pro Pro Pro		
565	570	575
Glu Glu Ser Pro Met Ser Pro Pro Pro Glu Glu Ser Pro Met Ser Pro		
580	585	590
Pro Pro Glu Ala Ser Arg Leu Phe Pro Pro Phe Glu Glu Ser Pro Leu		
595	600	605
Ser Pro Pro Pro Glu Glu Ser Pro Leu Ser Pro Pro Pro Glu Ala Ser		
610	615	620
Arg Leu Ser Pro Pro Pro Glu Asp Ser Pro Met Ser Pro Pro Pro Glu		
625	630	635
Glu Ser Pro Met Ser Pro Pro Pro Glu Val Ser Arg Leu Ser Pro Leu		
645	650	655
Pro Val Val Ser Arg Leu Ser Pro Pro Pro Glu Glu Ser Pro Leu Ser		
660	665	670
Pro Pro Ala Leu Ser Pro Leu Gly Glu Leu Glu Tyr Pro Phe Gly Ala		

675	680	685
Lys Gly Asp Ser Asp Pro Glu Ser Pro Leu Ala Ala Pro Ile Leu Glu		
690	695	700
Thr Pro Ile Ser Pro Pro Pro Glu Ala Asn Cys Thr Asp Pro Glu Pro		
705	710	715
Val Pro Pro Met Ile Leu Pro Pro Ser Pro Gly Ser Pro Val Gly Pro		
	725	730
Ala Ser Pro Ile Leu Met Glu Pro Leu Pro Pro Gln Cys Ser Pro Leu		
	740	745
Leu Gln His Ser Leu Val Pro Gln Asn Ser Pro Pro Ser Gln Cys Ser		
	755	760
Pro Pro Ala Leu Pro Leu Ser Val Pro Ser Pro Leu Ser Pro Ile Gly		
	770	775
Lys Val Val Gly Val Ser Asp Glu Ala Glu Leu His Glu Met Glu Thr		
785	790	795
Glu Lys Val Ser Glu Pro Glu Cys Pro Ala Leu Glu Pro Ser Ala Thr		
	805	810
Ser Pro Leu Pro Ser Pro Met Gly Asp Leu Ser Cys Pro Ala Pro Ser		
	820	825
Pro Ala Pro Ala Leu Asp Asp Phe Ser Gly Leu Gly Glu Asp Thr Ala		
	835	840
Pro Leu Asp Gly Ile Asp Ala Pro Gly Ser Gln Pro Glu Pro Gly Gln		
	850	855
Thr Pro Gly Ser Leu Ala Ser Glu Leu Lys Gly Ser Pro Val Leu Leu		
865	870	875
Asp Pro Glu Glu Leu Ala Pro Val Thr Pro Met Glu Val Tyr Pro Glu		
	885	890
Cys Lys Gln Thr Ala Gly Gln Gly Ser Pro Cys Glu Glu Gln Glu Glu		
	900	905
Pro Arg Ala Pro Val Ala Pro Thr Pro Pro Thr Leu Ile Lys Ser Asp		
	915	920
Ile Val Asn Glu Ile Ser Asn Leu Ser Gln Gly Asp Ala Ser Ala Ser		

930		935		940
Phe Pro Gly Ser Glu Pro Leu Leu Gly Ser Pro Asp Pro Glu Gly Gly				
945		950		955 960
Gly Ser Leu Ser Met Glu Leu Gly Val Ser Thr Asp Val Ser Pro Ala				
	965		970	975
Arg Asp Glu Gly Ser Leu Arg Leu Cys Thr Asp Ser Leu Pro Glu Thr				
	980		985	990
Asp Asp Ser Leu Leu Cys Asp Ala Gly Thr Ala Ile Ser Gly Gly Lys				
	995	1000		1005
Ala Glu Gly Glu Lys Gly Arg Arg Arg Ser Ser Pro Ala Arg Ser Arg				
1010		1015		1020
Ile Lys Gln Gly Arg Ser Ser Ser Phe Pro Gly Arg Arg Arg Pro Arg				
1025		1030		1035 1040
Gly Gly Ala His Gly Gly Arg Gly Arg Gly Arg Ala Arg Leu Lys Ser				
	1045		1050	1055
Thr Ala Ser Ser Ile Glu Thr Leu Val Val Ala Asp Ile Asp Ser Ser				
	1060		1065	1070
Pro Ser Lys Glu Glu Glu Glu Glu Asp Asp Asp Thr Met Gln Asn Thr				
	1075	1080		1085
Val Val Leu Phe Ser Asn Thr Asp Lys Phe Val Leu Met Gln Asp Met				
1090		1095		1100
Cys Val Val Cys Gly Ser Phe Gly Arg Gly Ala Glu Gly His Leu Leu				
1105		1110		1115 1120
Ala Cys Ser Gln Cys Ser Gln Cys Tyr His Pro Tyr Cys Val Asn Ser				
	1125		1130	1135
Lys Ile Thr Lys Val Met Leu Leu Lys Gly Trp Arg Cys Val Glu Cys				
	1140		1145	1150
Ile Val Cys Glu Val Cys Gly Gln Ala Ser Asp Pro Ser Arg Leu Leu				
	1155		1160	1165
Leu Cys Asp Asp Cys Asp Ile Ser Tyr His Thr Tyr Cys Leu Asp Pro				
1170		1175		1180
Pro Leu Leu Thr Val Pro Lys Gly Gly Trp Lys Cys Lys Trp Cys Val				

1185	1190	1195	1200
Ser Cys Met Gln Cys Gly Ala Ala Ser Pro Gly Phe His Cys Glu Trp	1205	1210	1215
Gln Asn Ser Tyr Thr His Cys Gly Pro Cys Ala Ser Leu Val Thr Cys	1220	1225	1230
Pro Ile Cys His Ala Pro Tyr Val Glu Glu Asp Leu Leu Ile Gln Cys	1235	1240	1245
Arg His Cys Glu Arg Trp Met His Ala Gly Cys Glu Ser Leu Phe Thr	1250	1255	1260
Glu Asp Asp Val Glu Gln Ala Ala Asp Glu Gly Phe Asp Cys Val Ser	1265	1270	1275
Cys Gln Pro Tyr Val Val Lys Pro Val Ala Pro Val Ala Pro Pro Glu	1285	1290	1295
Leu Val Pro Met Lys Val Lys Glu Pro Glu Pro Gln Tyr Phe Arg Phe	1300	1305	1310
Glu Gly Val Trp Leu Thr Glu Thr Gly Met Ala Leu Leu Arg Asn Leu	1315	1320	1325
Thr Met Ser Pro Leu His Lys Arg Arg Gln Arg Arg Gly Arg Leu Gly	1330	1335	1340
Leu Pro Gly Glu Ala Gly Leu Glu Gly Ser Glu Pro Ser Asp Ala Leu	1345	1350	1355
Gly Pro Asp Asp Lys Lys Asp Gly Asp Leu Asp Thr Asp Glu Leu Leu	1365	1370	1375
Lys Gly Glu Gly Gly Val Glu His Met Glu Cys Glu Ile Lys Leu Glu	1380	1385	1390
Gly Pro Val Ser Pro Asp Val Glu Pro Gly Lys Glu Glu Thr Glu Glu	1395	1400	1405
Ser Lys Lys Arg Lys Arg Lys Pro Tyr Arg Pro Gly Ile Gly Gly Phe	1410	1415	1420
Met Val Arg Gln Arg Lys Ser His Thr Arg Thr Lys Lys Gly Pro Ala	1425	1430	1435
Ala Gln Ala Glu Val Leu Ser Gly Asp Gly Gln Pro Asp Glu Val Ile			

1700 1705 1710
 Thr Thr Glu Gly Glu Gly Asp Gly Leu Ser Tyr Asn Gln Arg Ser Leu
 1715 1720 1725
 Gln Arg Trp Glu Lys Asp Glu Glu Leu Gly Gln Leu Ser Thr Ile Ser
 1730 1735 1740
 Pro Val Leu Tyr Ala Asn Ile Asn Phe Pro Asn Leu Lys Gln Asp Tyr
 1745 1750 1755 1760
 Pro Asp Trp Ser Ser Arg Cys Lys Gln Ile Met Lys Leu Trp Arg Lys
 1765 1770 1775
 Val Pro Ala Ala Asp Lys Ala Pro Tyr Leu Gln Lys Ala Lys Asp Asn
 1780 1785 1790
 Arg Ala Ala His Arg Ile Asn Lys Val Gln Lys Gln Ala Glu Ser Gln
 1795 1800 1805
 Ile Asn Lys Gln Thr Lys Val Gly Asp Ile Ala Arg Lys Thr Asp Arg
 1810 1815 1820
 Pro Ala Leu His Leu Arg Ile Pro Pro Gln Pro Gly Ala Leu Gly Ser
 1825 1830 1835 1840
 Pro Pro Pro Ala Ala Ala Pro Thr Ile Phe Ile Gly Ser Pro Thr Thr
 1845 1850 1855
 Pro Ala Gly Leu Ser Thr Ser Ala Asp Gly Phe Leu Lys Pro Pro Ala
 1860 1865 1870
 Gly Ser Val Pro Gly Pro Asp Ser Pro Gly Glu Leu Phe Leu Lys Leu
 1875 1880 1885
 Pro Pro Gln Val Pro Ala Gln Val Pro Ser Gln Asp Pro Phe Gly Leu
 1890 1895 1900
 Ala Pro Ala Tyr Pro Leu Glu Pro Arg Phe Pro Thr Ala Pro Pro Thr
 1905 1910 1915 1920
 Tyr Pro Pro Tyr Pro Ser Pro Thr Gly Ala Pro Ala Gln Pro Pro Met
 1925 1930 1935
 Leu Gly Ala Ser Ser Arg Pro Gly Ala Gly Gln Pro Gly Glu Phe His
 1940 1945 1950
 Thr Thr Pro Pro Gly Thr Pro Arg His Gln Pro Ser Thr Pro Asp Pro

1955	1960	1965
Phe Leu Lys Pro Arg Cys Pro Ser Leu Asp Asn Leu Ala Val Pro Glu		
1970	1975	1980
Ser Pro Gly Val Gly Gly Gly Lys Ala Ser Glu Pro Leu Leu Ser Pro		
1985	1990	1995
2000		
Pro Pro Phe Gly Glu Ser Arg Lys Ala Leu Glu Val Lys Lys Glu Glu		
2005	2010	2015
Leu Gly Ala Ser Ser Pro Ser Tyr Gly Pro Pro Asn Leu Gly Phe Val		
2020	2025	2030
Asp Ser Pro Ser Ser Gly Thr His Leu Gly Gly Leu Glu Leu Lys Thr		
2035	2040	2045
Pro Asp Val Phe Lys Ala Pro Leu Thr Pro Arg Ala Ser Gln Val Glu		
2050	2055	2060
Pro Gln Ser Pro Gly Leu Gly Leu Arg Pro Gln Glu Pro Pro Pro Ala		
2065	2070	2075
2080		
Gln Ala Leu Ala Pro Ser Pro Pro Ser His Pro Asp Ile Phe Arg Pro		
2085	2090	2095
Gly Ser Tyr Thr Asp Pro Tyr Ala Gln Pro Pro Leu Thr Pro Arg Pro		
2100	2105	2110
Gln Pro Pro Pro Pro Glu Ser Cys Cys Ala Leu Pro Pro Arg Ser Leu		
2115	2120	2125
Pro Ser Asp Pro Phe Ser Arg Val Pro Ala Ser Pro Gln Ser Gln Ser		
2130	2135	2140
Ser Ser Gln Ser Pro Leu Thr Pro Arg Pro Leu Ser Ala Glu Ala Phe		
2145	2150	2155
2160		
Cys Pro Ser Pro Val Thr Pro Arg Phe Gln Ser Pro Asp Pro Tyr Ser		
2165	2170	2175
Arg Pro Pro Ser Arg Pro Gln Ser Arg Asp Pro Phe Ala Pro Leu His		
2180	2185	2190
Lys Pro Pro Arg Pro Gln Pro Pro Glu Val Ala Phe Lys Ala Gly Ser		
2195	2200	2205
Leu Ala His Thr Ser Leu Gly Ala Gly Glu Phe Pro Ala Ala Leu Pro		

2210	2215	2220
Ala Gly Pro Ala Gly Glu Leu His Ala Lys Val Pro Ser Gly Gln Pro		
2225	2230	2235 2240
Pro Asn Phe Val Arg Ser Pro Gly Thr Gly Ala Phe Val Gly Thr Pro		
2245	2250	2255
Ser Pro Met Arg Phe Thr Phe Pro Gln Ala Val Gly Glu Pro Ser Leu		
2260	2265	2270
Lys Pro Pro Val Pro Gln Pro Gly Leu Pro Pro Pro His Gly Ile Asn		
2275	2280	2285
Ser His Phe Gly Pro Gly Pro Thr Leu Gly Lys Pro Gln Ser Thr Asn		
2290	2295	2300
Tyr Thr Val Ala Thr Gly Asn Phe His Pro Ser Gly Ser Pro Leu Gly		
2305	2310	2315 2320
Pro Ser Ser Gly Ser Thr Gly Glu Ser Tyr Gly Leu Ser Pro Leu Arg		
2325	2330	2335
Pro Pro Ser Val Leu Pro Pro Pro Ala Pro Asp Gly Ser Leu Pro Tyr		
2340	2345	2350
Leu Ser His Gly Ala Ser Gln Arg Ser Gly Ile Thr Ser Pro Val Glu		
2355	2360	2365
Lys Arg Glu Asp Pro Gly Thr Gly Met Gly Ser Ser Leu Ala Thr Ala		
2370	2375	2380
Glu Leu Pro Gly Thr Gln Asp Pro Gly Met Ser Gly Leu Ser Gln Thr		
2385	2390	2395 2400
Glu Leu Glu Lys Gln Arg Gln Arg Gln Arg Leu Arg Glu Leu Leu Ile		
2405	2410	2415
Arg Gln Gln Ile Gln Arg Asn Thr Leu Arg Gln Glu Lys Glu Thr Ala		
2420	2425	2430
Ala Ala Ala Ala Gly Ala Val Gly Pro Pro Gly Ser Trp Gly Ala Glu		
2435	2440	2445
Pro Ser Ser Pro Ala Phe Glu Gln Leu Ser Arg Gly Gln Thr Pro Phe		
2450	2455	2460
Ala Gly Thr Gln Asp Lys Ser Ser Leu Val Gly Leu Pro Pro Ser Lys		

2465 2470 2475 2480
 Leu Ser Gly Pro Ile Leu Gly Pro Gly Ser Phe Pro Ser Asp Asp Arg
 2485 2490 2495
 Leu Ser Arg Pro Pro Pro Pro Ala Thr Pro Ser Ser Met Asp Val Asn
 2500 2505 2510
 Ser Arg Gln Leu Val Gly Gly Ser Gln Ala Phe Tyr Gln Arg Ala Pro
 2515 2520 2525
 Tyr Pro Gly Ser Leu Pro Leu Gln Gln Gln Gln Gln Gln Leu Trp Gln
 2530 2535 2540
 Gln Gln Gln Ala Thr Ala Ala Thr Ser Met Arg Phe Ala Met Ser Ala
 2545 2550 2555 2560
 Arg Phe Pro Ser Thr Pro Gly Pro Glu Leu Gly Arg Gln Ala Leu Gly
 2565 2570 2575
 Ser Pro Leu Ala Gly Ile Ser Thr Arg Leu Pro Gly Pro Gly Glu Pro
 2580 2585 2590
 Val Pro Gly Pro Ala Gly Pro Ala Gln Phe Ile Glu Leu Arg His Asn
 2595 2600 2605
 Val Gln Lys Gly Leu Gly Pro Gly Gly Thr Pro Phe Pro Gly Gln Gly
 2610 2615 2620
 Pro Pro Gln Arg Pro Arg Phe Tyr Pro Val Ser Glu Asp Pro His Arg
 2625 2630 2635 2640
 Leu Ala Pro Glu Gly Leu Arg Gly Leu Ala Val Ser Gly Leu Pro Pro
 2645 2650 2655
 Gln Lys Pro Ser Ala Pro Pro Ala Pro Glu Leu Asn Asn Ser Leu His
 2660 2665 2670
 Pro Thr Pro His Thr Lys Gly Pro Thr Leu Pro Thr Gly Leu Glu Leu
 2675 2680 2685
 Val Asn Arg Pro Pro Ser Ser Thr Glu Leu Gly Arg Pro Asn Pro Leu
 2690 2695 2700
 Ala Leu Glu Ala Gly Lys Leu Pro Cys Glu Asp Pro Glu Leu Asp Asp
 2705 2710 2715 2720
 Asp Phe Asp Ala His Lys Ala Leu Glu Asp Asp Glu Glu Leu Ala His

2980	2985	2990
Ala Gln Leu Gln Pro Ala Gln Gln Gln Gln Gln Gln Gln Gln His 2995 3000 3005		
Ser Leu Leu Ser Ala Pro Gly Pro Ala Gln Ala Met Ser Leu Pro His 3010 3015 3020		
Glu Gly Ser Ser Pro Ser Leu Ala Gly Ser Gln Gln Gln Leu Ser Leu 3025 3030 3035 3040		
Gly Leu Ala Gly Ala Arg Gln Pro Gly Leu Pro Gln Pro Leu Met Pro 3045 3050 3055		
Thr Gln Pro Pro Ala His Ala Leu Gln Gln Arg Leu Ala Pro Ser Met 3060 3065 3070		
Ala Met Val Ser Asn Gln Gly His Met Leu Ser Gly Gln His Gly Gly 3075 3080 3085		
Gln Ala Gly Leu Val Pro Gln Gln Ser Ser Gln Pro Val Leu Ser Gln 3090 3095 3100		
Lys Pro Met Gly Thr Met Pro Pro Ser Met Cys Met Lys Pro Gln Gln 3105 3110 3115 3120		
Leu Ala Met Gln Gln Gln Leu Ala Asn Ser Phe Phe Pro Asp Thr Asp 3125 3130 3135		
Leu Asp Lys Phe Ala Ala Glu Asp Ile Ile Asp Pro Ile Ala Lys Ala 3140 3145 3150		
Lys Met Val Ala Leu Lys Gly Ile Lys Lys Val Met Ala Gln Gly Ser 3155 3160 3165		
Ile Gly Val Ala Pro Gly Met Asn Arg Gln Gln Val Ser Leu Leu Ala 3170 3175 3180		
Gln Arg Leu Ser Gly Gly Pro Ser Ser Asp Leu Gln Asn His Val Ala 3185 3190 3195 3200		
Ala Gly Ser Gly Gln Glu Arg Ser Ala Gly Asp Pro Ser Gln Pro Arg 3205 3210 3215		
Pro Asn Pro Pro Thr Phe Ala Gln Gly Val Ile Asn Glu Ala Asp Gln 3220 3225 3230		
Arg Gln Tyr Glu Glu Trp Leu Phe His Thr Gln Gln Leu Leu Gln Met		

3490	3495	3500
Ser Ser His Gln Gly Leu Leu Val Gln Gln Leu Ser Pro Gln Pro Pro		
3505	3510	3515 3520
Gln Gly Pro Gln Gly Met Leu Gly Pro Ala Gln Val Ala Val Leu Gln		
	3525	3530 3535
Gln Gln His Pro Gly Ala Leu Gly Pro Gln Gly Pro His Arg Gln Val		
	3540	3545 3550
Leu Met Thr Gln Ser Arg Val Leu Ser Ser Pro Gln Leu Ala Gln Gln		
	3555	3560 3565
Gly Gln Gly Leu Met Gly His Arg Leu Val Thr Ala Gln Gln Gln Gln		
	3570	3575 3580
Gln Gln Gln Gln His Gln Gln Gln Gly Ser Met Ala Gly Leu Ser His		
3585	3590	3595 3600
Leu Gln Gln Ser Leu Met Ser His Ser Gly Gln Pro Lys Leu Ser Ala		
	3605	3610 3615
Gln Pro Met Gly Ser Leu Gln Gln Leu Gln Gln Gln Gln Gln Leu Gln		
	3620	3625 3630
Gln Gln Gln Gln Leu Gln Gln Gln Gln Gln Gln Gln Leu Gln Gln Gln		
	3635	3640 3645
Gln Gln Leu Gln Gln Gln Gln Leu Gln Gln Gln Gln Gln Gln Gln		
	3650	3655 3660
Leu Gln Gln Gln Gln Gln Gln Gln Leu Gln Gln Gln Gln Gln Gln Leu		
3665	3670	3675 3680
Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Phe Gln Gln Gln Gln Gln		
	3685	3690 3695
Gln Gln Gln Met Gly Leu Leu Asn Gln Ser Arg Thr Leu Leu Ser Pro		
	3700	3705 3710
Gln Gln Gln Gln Gln Gln Gln Val Ala Leu Gly Pro Gly Met Pro Ala		
	3715	3720 3725
Lys Pro Leu Gln His Phe Ser Ser Pro Gly Ala Leu Gly Pro Thr Leu		
	3730	3735 3740
Leu Leu Thr Gly Lys Glu Gln Asn Thr Val Asp Pro Ala Val Ser Ser		

3745 3750 3755 3760
 Glu Ala Thr Glu Gly Pro Ser Thr His Gln Gly Gly Pro Leu Ala Ile
 3765 3770 3775
 Gly Thr Thr Pro Glu Ser Met Ala Thr Glu Pro Gly Glu Val Lys Pro
 3780 3785 3790
 Ser Leu Ser Gly Asp Ser Gln Leu Leu Leu Val Gln Pro Gln Pro Gln
 3795 3800 3805
 Pro Gln Pro Ser Ser Leu Gln Leu Gln Pro Pro Leu Arg Leu Pro Gly
 3810 3815 3820
 Gln Gln Gln Gln Gln Val Ser Leu Leu His Thr Ala Gly Gly Gly Ser
 3825 3830 3835 3840
 His Gly Gln Leu Gly Ser Gly Ser Ser Ser Glu Ala Ser Ser Val Pro
 3845 3850 3855
 His Leu Leu Ala Gln Pro Ser Val Ser Leu Gly Asp Gln Pro Gly Ser
 3860 3865 3870
 Met Thr Gln Asn Leu Leu Gly Pro Gln Gln Pro Met Leu Glu Arg Pro
 3875 3880 3885
 Met Gln Asn Asn Thr Gly Pro Gln Pro Pro Lys Pro Gly Pro Val Leu
 3890 3895 3900
 Gln Ser Gly Gln Gly Leu Pro Gly Val Gly Ile Met Pro Thr Val Gly
 3905 3910 3915 3920
 Gln Leu Arg Ala Gln Leu Gln Gly Val Leu Ala Lys Asn Pro Gln Leu
 3925 3930 3935
 Arg His Leu Ser Pro Gln Gln Gln Gln Gln Leu Gln Ala Leu Leu Met
 3940 3945 3950
 Gln Arg Gln Leu Gln Gln Ser Gln Ala Val Arg Gln Thr Pro Pro Tyr
 3955 3960 3965
 Gln Glu Pro Gly Thr Gln Thr Ser Pro Leu Gln Gly Leu Leu Gly Cys
 3970 3975 3980
 Gln Pro Gln Leu Gly Gly Phe Pro Gly Pro Gln Thr Gly Pro Leu Gln
 3985 3990 3995 4000
 Glu Leu Gly Ala Gly Pro Arg Pro Gln Gly Pro Pro Arg Leu Pro Ala

4005	4010	4015
Pro Pro Gly Ala Leu Ser Thr Gly Pro Val Leu Gly Pro Val His Pro		
4020	4025	4030
Thr Pro Pro Pro Ser Ser Pro Gln Glu Pro Lys Arg Pro Ser Gln Leu		
4035	4040	4045
Pro Ser Pro Ser Ser Gln Leu Pro Thr Glu Ala Gln Leu Pro Pro Thr		
4050	4055	4060
His Pro Gly Thr Pro Lys Pro Gln Gly Pro Thr Leu Glu Pro Pro Pro		
4065	4070	4075
Gly Arg Val Ser Pro Ala Ala Ala Gln Leu Ala Asp Thr Leu Phe Ser		
4085	4090	4095
Lys Gly Leu Gly Pro Trp Asp Pro Pro Asp Asn Leu Ala Glu Thr Gln		
4100	4105	4110
Lys Pro Glu Gln Ser Ser Leu Val Pro Gly His Leu Asp Gln Val Asn		
4115	4120	4125
Gly Gln Val Val Pro Glu Ala Ser Gln Leu Ser Ile Lys Gln Glu Pro		
4130	4135	4140
Arg Glu Glu Pro Cys Ala Leu Gly Ala Gln Ser Val Lys Arg Glu Ala		
4145	4150	4155
Asn Gly Glu Pro Ile Gly Ala Pro Gly Thr Ser Asn His Leu Leu Leu		
4165	4170	4175
Ala Gly Pro Arg Ser Glu Ala Gly His Leu Leu Leu Gln Lys Leu Leu		
4180	4185	4190
Arg Ala Lys Asn Val Gln Leu Ser Thr Gly Arg Gly Ser Glu Gly Leu		
4195	4200	4205
Arg Ala Glu Ile Asn Gly His Ile Asp Ser Lys Leu Ala Gly Leu Glu		
4210	4215	4220
Gln Lys Leu Gln Gly Thr Pro Ser Asn Lys Glu Asp Ala Ala Ala Arg		
4225	4230	4235
Lys Pro Leu Thr Pro Lys Pro Lys Arg Val Gln Lys Ala Ser Asp Arg		
4245	4250	4255
Leu Val Ser Ser Arg Lys Lys Leu Arg Lys Glu Asp Gly Val Arg Ala		

4260 4265 4270

Ser Glu Ala Leu Leu Lys Gln Leu Lys Gln Glu Leu Ser Leu Leu Pro
4275 4280 4285

Leu Thr Glu Pro Ala Ile Thr Ala Asn Phe Ser Leu Phe Ala Pro Phe
4290 4295 4300

Gly Ser Gly Cys Pro Val Asn Gly Gln Ser Gln Leu Arg Gly Ala Phe
4305 4310 4315 4320

Gly Ser Gly Ala Leu Pro Thr Gly Pro Asp Tyr Tyr Ser Gln Leu Leu
4325 4330 4335

Thr Lys Asn Asn Leu Ser Asn Pro Pro Thr Pro Pro Ser Ser Leu Pro
4340 4345 4350

Pro Thr Pro Pro Pro Ser Val Gln Gln Lys Met Val Asn Gly Val Thr
4355 4360 4365

Pro Ser Glu Glu Leu Gly Glu His Pro Lys Asp Ala Ala Ser Ala Arg
4370 4375 4380

Asp Ser Glu Arg Ala Leu Arg Asp Thr Ser Glu Val Lys Ser Leu Asp
4385 4390 4395 4400

Leu Leu Ala Ala Leu Pro Thr Pro Pro His Asn Gln Thr Glu Asp Val
4405 4410 4415

Arg Met Glu Ser Asp Glu Asp Ser Asp Ser Pro Asp Ser Ile Val Pro
4420 4425 4430

Ala Ser Ser Pro Glu Ser Ile Leu Gly Glu Glu Ala Pro Arg Phe Pro
4435 4440 4445

His Leu Gly Ser Gly Arg Trp Glu Gln Glu Asp Arg Ala Leu Ser Pro
4450 4455 4460

Val Ile Pro Leu Ile Pro Arg Ala Ser Ile Pro Val Phe Pro Asp Thr
4465 4470 4475 4480

Lys Pro Tyr Gly Ala Leu Gly Leu Glu Val Pro Gly Lys Leu Pro Val
4485 4490 4495

Thr Thr Trp Glu Lys Gly Lys Gly Ser Glu Val Ser Val Met Leu Thr
4500 4505 4510

Val Ser Ala Ala Ala Ala Lys Asn Leu Asn Gly Val Met Val Ala Val

4515 4520 4525
 Ala Glu Leu Leu Ser Met Lys Ile Pro Asn Ser Tyr Glu Val Leu Phe
 4530 4535 4540
 Pro Glu Ser Pro Ala Arg Ala Gly Thr Glu Pro Lys Lys Gly Glu Ala
 4545 4550 4555 4560
 Glu Gly Pro Gly Gly Lys Glu Lys Gly Leu Glu Gly Lys Ser Pro Asp
 4565 4570 4575
 Thr Gly Pro Asp Trp Leu Lys Gln Phe Asp Ala Val Leu Pro Gly Tyr
 4580 4585 4590
 Thr Leu Lys Ser Gln Leu Asp Ile Leu Ser Leu Leu Lys Gln Glu Ser
 4595 4600 4605
 Pro Ala Pro Glu Pro Pro Thr Gln His Ser Tyr Thr Tyr Asn Val Ser
 4610 4615 4620
 Asn Leu Asp Val Arg Gln Leu Ser Ala Pro Pro Pro Glu Glu Pro Ser
 4625 4630 4635 4640
 Pro Pro Pro Ser Pro Leu Ala Pro Ser Pro Ala Ser Pro Pro Thr Glu
 4645 4650 4655
 Pro Leu Val Glu Leu Pro Thr Glu Pro Leu Ala Glu Pro Pro Val Pro
 4660 4665 4670
 Ser Pro Leu Pro Leu Ala Ser Ser Pro Glu Ser Ala Arg Pro Lys Pro
 4675 4680 4685
 Arg Ala Arg Pro Pro Glu Glu Gly Glu Asp Ser Arg Pro Pro Arg Leu
 4690 4695 4700
 Lys Lys Trp Lys Gly Val Arg Trp Lys Arg Leu Arg Leu Leu Leu Thr
 4705 4710 4715 4720
 Ile Gln Lys Gly Ser Gly Arg Gln Glu Asp Glu Arg Glu Val Ala Glu
 4725 4730 4735
 Phe Met Glu Gln Leu Gly Thr Ala Leu Arg Pro Asp Lys Val Pro Arg
 4740 4745 4750
 Asp Met Arg Arg Cys Cys Phe Cys His Glu Glu Gly Asp Gly Ala Thr
 4755 4760 4765
 Asp Gly Pro Ala Arg Leu Leu Asn Leu Asp Leu Asp Leu Trp Val His

4770 4775 4780
 Leu Asn Cys Ala Leu Trp Ser Thr Glu Val Tyr Glu Thr Gln Gly Gly
 4785 4790 4795 4800
 Ala Leu Met Asn Val Glu Val Ala Leu His Arg Gly Leu Leu Thr Lys
 4805 4810 4815
 Cys Ser Leu Cys Gln Arg Thr Gly Ala Thr Ser Ser Cys Asn Arg Met
 4820 4825 4830
 Arg Cys Pro Asn Val Tyr His Phe Ala Cys Ala Ile Arg Ala Lys Cys
 4835 4840 4845
 Met Phe Phe Lys Asp Lys Thr Met Leu Cys Pro Met His Lys Ile Lys
 4850 4855 4860
 Gly Pro Cys Glu Gln Glu Leu Ser Ser Phe Ala Val Phe Arg Arg Val
 4865 4870 4875 4880
 Tyr Ile Glu Arg Asp Glu Val Lys Gln Ile Ala Ser Ile Ile Gln Arg
 4885 4890 4895
 Gly Glu Arg Leu His Met Phe Arg Val Gly Gly Leu Val Phe His Ala
 4900 4905 4910
 Ile Gly Gln Leu Leu Pro His Gln Met Ala Asp Phe His Ser Ala Thr
 4915 4920 4925
 Ala Leu Tyr Pro Val Gly Tyr Glu Ala Thr Arg Ile Tyr Trp Ser Leu
 4930 4935 4940
 Arg Thr Asn Asn Arg Arg Cys Cys Tyr Arg Cys Ser Ile Gly Glu Asn
 4945 4950 4955 4960
 Asn Gly Arg Pro Glu Phe Val Ile Lys Val Ile Glu Gln Gly Leu Glu
 4965 4970 4975
 Asp Leu Val Phe Thr Asp Ala Ser Pro Gln Ala Val Trp Asn Arg Ile
 4980 4985 4990
 Ile Glu Pro Val Ala Ala Met Arg Lys Glu Ala Asp Met Leu Arg Leu
 4995 5000 5005
 Phe Pro Glu Tyr Leu Lys Gly Glu Glu Leu Phe Gly Leu Thr Val His
 5010 5015 5020
 Ala Val Leu Arg Ile Ala Glu Ser Leu Pro Gly Val Glu Ser Cys Gln

5025 5030 5035 5040
 Asn Tyr Leu Phe Arg Tyr Gly Arg His Pro Leu Met Glu Leu Pro Leu
 5045 5050 5055
 Met Ile Asn Pro Thr Gly Cys Ala Arg Ser Glu Pro Lys Ile Leu Thr
 5060 5065 5070
 His Tyr Lys Arg Pro His Thr Leu Asn Ser Thr Ser Met Ser Lys Ala
 5075 5080 5085
 Tyr Gln Ser Thr Phe Thr Gly Glu Thr Asn Thr Pro Tyr Ser Lys Gln
 5090 5095 5100
 Phe Val His Ser Lys Ser Ser Gln Tyr Arg Arg Leu Arg Thr Glu Trp
 5105 5110 5115 5120
 Lys Asn Asn Val Tyr Leu Ala Arg Ser Arg Ile Gln Gly Leu Gly Leu
 5125 5130 5135
 Tyr Ala Ala Lys Asp Leu Glu Lys His Thr Met Val Ile Glu Tyr Ile
 5140 5145 5150
 Gly Thr Ile Ile Arg Asn Glu Val Ala Asn Arg Arg Glu Lys Ile Tyr
 5155 5160 5165
 Glu Glu Gln Asn Arg Gly Ile Tyr Met Phe Arg Ile Asn Asn Glu His
 5170 5175 5180
 Val Ile Asp Ala Thr Leu Thr Gly Gly Pro Ala Arg Tyr Ile Asn His
 5185 5190 5195 5200
 Ser Cys Ala Pro Asn Cys Val Ala Glu Val Val Thr Phe Asp Lys Glu
 5205 5210 5215
 Asp Lys Ile Ile Ile Ile Ser Ser Arg Arg Ile Pro Lys Gly Glu Glu
 5220 5225 5230
 Leu Thr Tyr Asp Tyr Gln Phe Asp Phe Glu Asp Asp Gln His Lys Ile
 5235 5240 5245
 Pro Cys His Cys Gly Ala Trp Asn Cys Arg Lys Trp Met Asn
 5250 5255 5260

<210> 168
 <211> 677
 <212> PRT

<213> Mus musculus

<400> 168

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Lys Asn Ser Asp Asn Lys Glu Ser Leu Pro Ser Leu Pro Gln Ser Pro
35 40 45
Met Lys Glu Pro Ser Lys Ala Phe His Gln Tyr Ser Asn Asn Ile Ser
50 55 60
Thr Leu Asp Val His Cys Leu Pro Gln Phe Gln Glu Lys Val Ser Pro
65 70 75 80
Pro Ala Ser Pro Pro Ile Ser Phe Pro Pro Ala Phe Glu Ala Ala Lys
85 90 95
Val Glu Ser Lys Pro Asp Glu Leu Lys Val Thr Val Lys Leu Lys Pro
100 105 110
Arg Leu Arg Thr Val Pro Val Gly Leu Glu Asp Cys Arg Pro Leu Asn
115 120 125
Lys Lys Trp Arg Gly Met Lys Trp Lys Lys Trp Ser Ile His Ile Val
130 135 140
Ile Pro Lys Gly Thr Phe Lys Pro Pro Cys Glu Asp Glu Ile Asp Glu
145 150 155 160
Phe Leu Lys Lys Leu Gly Thr Cys Leu Lys Pro Asp Pro Val Pro Lys
165 170 175
Asp Cys Arg Lys Cys Cys Phe Cys His Glu Glu Gly Asp Gly Leu Thr
180 185 190
Asp Gly Pro Ala Arg Leu Leu Asn Leu Asp Leu Asp Leu Trp Val His
195 200 205
Leu Asn Cys Ala Leu Trp Ser Thr Glu Val Tyr Glu Thr Gln Ala Gly
210 215 220
Ala Leu Ile Asn Val Glu Leu Ala Leu Arg Arg Gly Leu Gln Met Lys
225 230 235 240

Cys Val Phe Cys His Lys Thr Gly Ala Thr Ser Gly Cys His Arg Phe
 245 250 255

Arg Cys Thr Asn Ile Tyr His Phe Thr Cys Ala Thr Lys Ala Gln Cys
 260 265 270

Met Phe Phe Lys Asp Lys Thr Met Leu Cys Pro Met His Lys Pro Lys
 275 280 285

Gly Ile His Glu Gln Gln Leu Ser Tyr Phe Ala Val Phe Arg Arg Val
 290 295 300

Tyr Val Gln Arg Asp Glu Val Arg Gln Ile Ala Ser Ile Val Gln Arg
 305 310 315 320

Gly Glu Arg Asp His Thr Phe Arg Val Gly Ser Leu Ile Phe His Thr
 325 330 335

Ile Gly Gln Leu Leu Pro Gln Gln Met Gln Ala Phe His Ser Pro Lys
 340 345 350

Ala Leu Phe Pro Val Gly Tyr Glu Ala Ser Arg Leu Tyr Trp Ser Thr
 355 360 365

Arg Tyr Ala Asn Arg Arg Cys Arg Tyr Leu Cys Ser Ile Glu Glu Lys
 370 375 380

Asp Gly Arg Pro Val Phe Val Ile Arg Ile Val Glu Gln Gly His Glu
 385 390 395 400

Asp Leu Val Leu Ser Asp Ser Ser Pro Lys Asp Val Trp Asp Lys Ile
 405 410 415

Leu Glu Pro Val Ala Cys Val Arg Lys Lys Ser Glu Met Leu Gln Leu
 420 425 430

Phe Pro Ala Tyr Leu Lys Gly Glu Asp Leu Phe Gly Leu Thr Val Ser
 435 440 445

Ala Val Ala Arg Ile Ala Glu Ser Leu Pro Gly Val Glu Ala Cys Glu
 450 455 460

Asn Tyr Thr Phe Arg Tyr Gly Arg Asn Pro Leu Met Glu Leu Pro Leu
 465 470 475 480

Ala Val Asn Pro Thr Gly Cys Ala Arg Ser Glu Pro Lys Met Ser Ala
 485 490 495

His Val Lys Arg Pro His Thr Leu Asn Ser Thr Ser Thr Ser Lys Ser
500 505 510

Phe Gln Ser Thr Val Thr Gly Glu Leu Asn Ala Pro Tyr Ser Lys Gln
515 520 525

Phe Val His Ser Lys Ser Ser Gln Tyr Arg Arg Met Lys Thr Glu Trp
530 535 540

Lys Ser Asn Val Tyr Leu Ala Arg Ser Arg Ile Gln Gly Leu Gly Leu
545 550 555 560

Tyr Ala Ala Arg Asp Ile Glu Lys His Thr Met Val Ile Glu Tyr Ile
565 570 575

Gly Thr Ile Ile Arg Asn Glu Val Ala Asn Arg Lys Glu Lys Leu Tyr
580 585 590

Glu Ser Gln Asn Arg Gly Val Tyr Met Phe Arg Met Asp Asn Asp His
595 600 605

Val Ile Asp Ala Thr Leu Thr Gly Gly Pro Ala Arg Tyr Ile Asn His
610 615 620

Ser Cys Ala Pro Asn Cys Val Ala Glu Val Val Thr Phe Glu Arg Gly
625 630 635 640

His Lys Ile Ile Ile Ser Ser Asn Arg Arg Ile Gln Lys Gly Glu Glu
645 650 655

Leu Cys Tyr Asp Tyr Lys Phe Asp Phe Glu Asp Asp Gln His Lys Ile
660 665 670

Pro Cys His Cys Gly
675

<210> 169

<211> 4823

<212> PRT

<213> Takifugu rubripes

<400> 169

Met Asp Glu Gln Lys Ser Asn Cys Glu Glu Asn Asp Ser Glu Pro Thr
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Ala Asp Asp Asn Ala Ser Ser Lys Gln Leu Glu Glu Asp Ser Lys Thr
20 25 30

Cys Thr Ala Ala Glu Asp Val Ser Gly Ser Thr Val Ala Ser Ser Ser
 35 40 45
 Thr His Ile Glu Ser Val Gln Val Cys Ala Leu Cys Asn Cys Val Glu
 50 55 60
 Trp Ser Leu His Gly Gln Arg Glu Leu Arg Tyr Phe Gly Pro Phe Ser
 65 70 75 80
 Glu Trp Arg Thr Leu Gln Pro Ser Ser Thr Pro Leu Pro Gln Pro Gly
 85 90 95
 Asn Asp Asp Leu Ser Ser Ile Gly Phe Ser Val Leu Pro Cys Leu Ala
 100 105 110
 Ala Leu Leu Asp Asp Ser Gly Gly Cys Trp Val His His Trp Cys Ala
 115 120 125
 Val Trp Ser Glu Gly Val Lys Gln His Glu Asn Asp Lys Leu Lys Asp
 130 135 140
 Val Asp Lys Ala Val Ile Ser Gly Ile Pro Arg Leu Cys Glu His Cys
 145 150 155 160
 Lys Arg Leu Gly Ala Thr Ile Gln Cys His Ala Glu Gly Cys Ser Arg
 165 170 175
 Phe Tyr His Phe Pro Cys Ser Ala Ala Ser Gly Ser Phe Gln Ser Met
 180 185 190
 Lys Gln Leu Leu Leu Leu Cys Pro Glu His Ile Asp Lys Ala Lys Glu
 195 200 205
 Leu Gly Glu Glu Ala Cys Cys Ala Val Cys Asp Ser Ala Gly Glu Leu
 210 215 220
 Ser Asp Leu Leu Phe Cys Thr Gly Cys Gly Gln His Tyr His Ala Ala
 225 230 235 240
 Cys Leu Glu Ile Gly Ala Thr Pro Ile Gln Arg Ala Gly Trp Gln Cys
 245 250 255
 Pro Glu Cys Lys Val Cys Gln Thr Cys Arg Lys Pro Gly Glu Asp Ser
 260 265 270
 Lys Met Leu Val Cys Asp Ala Cys Asp Lys Gly Tyr His Thr Phe Cys
 275 280 285

Leu Gln Pro Ala Met Asp Ser Leu Pro Thr Asp Pro Trp Lys Cys Lys
 290 295 300

Arg Cys Arg Val Cys Thr Asp Cys Gly Ala Arg Gly Leu Glu Leu Pro
 305 310 315 320

Gly Ser Thr Gln Trp Phe Glu Asn Tyr Ala Val Cys Glu Ala Cys Gln
 325 330 335

His His Arg Asn Cys Thr Cys Ser Val Cys Asn Lys Pro Asp Gly Ser
 340 345 350

Val Ala Thr Leu Gln Ser Cys Ser Val Cys His Arg Leu Val His Ser
 355 360 365

Gly Cys Thr Leu Pro Lys Glu Leu Ser Glu Asp Lys Cys Ile Cys Leu
 370 375 380

His Cys Lys Glu Gln Leu Pro Val Thr Gln Pro His Thr Ala Glu Ile
 385 390 395 400

Gln Thr Arg Glu Ala Pro Glu Asp Thr Ala Gly Arg Val Asp Leu Ile
 405 410 415

Glu Met Thr Ile Gln Thr Asp Ala Ala Met Thr Thr Glu Glu His Met
 420 425 430

Asp Val Pro Glu Val Thr Pro Arg His Lys Ser Leu Ala Glu Thr Asp
 435 440 445

Gln Ile Glu Ala Ser Ala Asn Thr Glu Thr Pro Met Asp Leu Gly Pro
 450 455 460

Asp Gln Lys Glu Thr Thr Ser Ser Val Glu Gln Gln Ala Glu Leu Leu
 465 470 475 480

Lys Ser Asn His Asp Val Trp Pro Val Thr Asn Gln Leu Gly Thr Ser
 485 490 495

Leu Pro His Ser Glu Glu Glu Glu Glu Asp Asp Asp Asp Asp Pro Leu
 500 505 510

Arg Glu Glu Arg Cys Leu Val Ile Lys Gln Glu Leu Gln Glu Gln Lys
 515 520 525

Ile Lys Pro Asp Leu Leu Leu Asp Glu Thr Ser Asn Leu Ser His Gly
 530 535 540

Asp Glu Ser Ser Ser Gly Phe Leu Gly Ser Pro Gly Glu Pro Asp Ala
 545 550 555 560

His Leu Ser Met Glu Phe Gly Leu Glu Ser Gly Ala His Ser His Ala
 565 570 575

Asp Asn Leu Leu Thr Glu Thr Asp Asp Ser Leu Pro Phe Glu Pro Leu
 580 585 590

Arg Ser Asp Arg Glu Lys Val Lys Arg Arg Gly Ser Pro Gly Arg Ser
 595 600 605

Arg Met Lys Gln Ser Arg Ser Ser Gly Phe Pro Gly Arg Arg Arg Pro
 610 615 620

Arg Gly Gly Gly Gly Gly Arg Gly Arg Gly Gly Arg Ser Arg Leu Lys
 625 630 635 640

Ala Met Ala Ser Cys Ile Asp Ala Leu Ser Met Ala Ser Asp Thr Gly
 645 650 655

Val Thr Lys Glu Glu Glu Glu Glu Glu Asp Asp Thr Met Gln Asn Thr
 660 665 670

Val Val Leu Phe Ser Asn Thr Asp Lys Phe Val Leu Leu Gln Asp Met
 675 680 685

Cys Val Val Cys Gly Ser Phe Gly Lys Gly Ser Glu Gly Gln Leu Leu
 690 695 700

Ala Cys Ala Gln Cys Ala Gln Cys Tyr His Pro Tyr Cys Val Asn Ser
 705 710 715 720

Lys Ile Thr Lys Thr Lys Leu Arg Lys Gly Trp Arg Cys Leu Glu Cys
 725 730 735

Ile Val Cys Glu Met Cys Gly Lys Ala Ser Asp Pro Ser Arg Leu Leu
 740 745 750

Leu Cys Asp Asp Cys Asp Val Ser Tyr His Thr Tyr Cys Leu Asp Pro
 755 760 765

Pro Leu His Asn Val Pro Lys Gly Gly Trp Lys Cys Lys Trp Cys Val
 770 775 780

Cys Cys Val Gln Cys Gly Ser Asn Thr Pro Gly Phe His Cys Glu Trp
 785 790 795 800

Gln Asn Asn Tyr Thr His Cys Gly Pro Cys Ala Ser Leu Val Thr Cys
 805 810 815

Pro Val Cys Arg Glu Asn Phe Met Glu Glu Glu Leu Leu Leu Gln Cys
 820 825 830

Gln Tyr Cys Asp Arg Trp Val His Ala Val Cys Glu Ser Leu Tyr Thr
 835 840 845

Glu Asp Glu Val Glu Gln Ala Ser Asp Glu Gly Phe Ala Cys Thr Tyr
 850 855 860

Cys Ala Pro Tyr Val Pro Lys Pro Val Gly Lys Ser Lys Asn Ser Leu
 865 870 875 880

Ile Phe Ala Asn Ile Ser Ser Thr Glu Pro Gln Phe Tyr Arg Leu Glu
 885 890 895

Gly Val Trp Leu Thr Glu Ser Gly Met Ser Leu Leu Arg Ser Ile Ser
 900 905 910

Met Ser Pro Leu His Lys Arg Arg Gln Arg Arg Ser Arg Leu Gly Thr
 915 920 925

Leu Cys Cys Glu Gly Gly Ala Asp Trp Met Asp Leu Arg Glu Val Glu
 930 935 940

Gly Asp Gly Glu Glu Gly Lys Gly Glu Pro Met Glu Cys Glu Met Lys
 945 950 955 960

Met Glu Asn Leu Gly Ser Pro Glu Arg Glu Ala Gly Gly Glu Lys Asp
 965 970 975

Ala Cys Ala Asp Gly Ala Asp Gly Met Ala Asp Cys Asp Val Leu Lys
 980 985 990

Gly Gly Asp Asp Thr Glu Asp Ser Lys Lys Arg Lys Arg Lys Pro Tyr
 995 1000 1005

Arg Pro Gly Ile Gly Gly Phe Met Val Arg Gln Arg Lys Cys His Thr
 1010 1015 1020

Arg Gln Lys Lys Glu Phe Phe Ala Gln Leu Ala Gly Glu Thr Thr Leu
 1025 1030 1035 1040

Asp Gly Gln Pro Ile Glu Arg Thr Ile Asp Glu Asp Asn Ile Met Asp
 1045 1050 1055

Pro Lys Pro Ala Glu Gly Glu Glu Gln Ala Lys Lys Arg Arg Gly Arg
 1060 1065 1070

Lys Lys Ser Lys Leu Glu Asp Met Phe Pro Ala Tyr Leu Gln Glu Ala
 1075 1080 1085

Phe Phe Gly Lys Thr Leu Ile Asp Leu Cys Lys Arg Ala Val Leu Ile
 1090 1095 1100

Pro Pro Gly Gln Arg Pro Ala Ser Cys Leu Val Arg Pro Ser Leu Pro
 1105 1110 1115 1120

Ala Pro Ser Gly Leu Arg Ile Thr Ser Pro Glu Cys Glu Ser Arg Asn
 1125 1130 1135

Gln Ser Ile Phe Phe Ile Leu Glu Ser Gln Lys Pro Tyr Cys Glu Val
 1140 1145 1150

Thr Gln Ser Phe Phe Phe Phe Phe Ala Ala Asp Ala Ser Asn His Val
 1155 1160 1165

Ala Lys Asp Ile Phe Pro Leu Lys Gln Glu Gly Cys Glu Gln Ser Gln
 1170 1175 1180

Ala Gln Lys Asp Gly Thr Gly Leu Pro Gln Gly Val Glu Asn Gln Asp
 1185 1190 1195 1200

Ser Glu Gln Phe Phe Arg Lys Val Leu Gly Val Ser Asp Gly Ser Ser
 1205 1210 1215

Leu Gly Gly Met Lys Pro Ile Leu Glu Ser Ser Lys Gly Glu Ser His
 1220 1225 1230

Thr Ala Leu Pro Gln Ser Ala Leu Leu Pro Gly Ser Leu Pro Ser Ala
 1235 1240 1245

Glu Met Val Asp Ala Phe Pro Gly Leu Ser Gln Ser Pro Phe Leu Asp
 1250 1255 1260

Met Arg Asp Arg Gly Gly Leu Phe Ser Pro Asp Gly Gly Glu Glu Ser
 1265 1270 1275 1280

Pro Trp Ala Thr Pro Ser Thr Pro Val Thr Pro Ser Ser Pro Pro Thr
 1285 1290 1295

Pro Thr Glu Thr Glu Gly Asp Gly Leu Ser Tyr Asn Gln Arg Ser Leu
 1300 1305 1310

Gln Arg Trp Glu Lys Asp Glu Glu Leu Gly Glu Leu Ser Thr Ile Ser
1315 1320 1325

Pro Val Leu Tyr Ala Asn Thr Asn Phe Pro Thr Leu Lys Arg Asp Tyr
1330 1335 1340

Pro Asp Trp Ala Ser Arg Cys Lys Gln Ile Met Lys Ile Trp Arg Lys
1345 1350 1355 1360

Val Ser Ala Ala Asp Lys Val Pro Tyr Leu Gln Lys Ala Lys Asp Asn
1365 1370 1375

Arg Ala Ala Gln Arg Ile Ser Lys Ala Gln Lys Gln Ala Glu Ser Gln
1380 1385 1390

Val Cys Arg Pro Ile Lys Thr Glu Pro Gly Arg Val Lys Glu Arg Pro
1395 1400 1405

Asn Leu His Leu Lys Ile Pro Leu Pro Ala Gly Ser Val Ser Ala Ser
1410 1415 1420

Ser Gln Pro Ser Ser Ala Glu Ser Pro Phe Pro Leu Leu Pro Asp Ser
1425 1430 1435 1440

Gly Ser Ser Ser Val Phe Phe Ser Asp Gly Pro Val Arg Thr Pro Gly
1445 1450 1455

Ser Ala Glu Ile Arg Thr Asp Pro Leu Ala Lys Phe Pro Pro Gln Ser
1460 1465 1470

Pro His Cys His Ser His Pro Pro Thr Pro Phe Ser His Ala Gly Ala
1475 1480 1485

Ser Pro Leu Gln Ala Ser Phe Ser Gly Tyr Val Pro Ser Gly Pro Gln
1490 1495 1500

Gly Pro Pro Gln Gly Arg Pro Ala Ser Leu Gly Pro Phe Asp Met Gln
1505 1510 1515 1520

Pro Gly Thr Pro Gly Thr Pro Arg Arg Ala Gln Gln Val Asp Pro Tyr
1525 1530 1535

Phe Arg Ser Gln Leu Gln Lys Gln Gln Gly His Leu Pro Gln Thr Gln
1540 1545 1550

Gln Gly Ser Gln Glu Ser Leu Ala Pro Pro Gly Ser Pro His Ser Arg
1555 1560 1565

Val Ala Gly Ile Gly Glu Ser Pro Leu Phe Ser Pro Ser His Ser Thr			
1570	1575	1580	
His Tyr Gly Asp Ala Phe Arg Asn Gln Gln Gly Met Gly Arg Pro Glu			
1585	1590	1595	1600
Tyr Gly Ser Ser Pro Ser His Ser Gly Gln Ile Ser Ser Pro Ala Ser			
	1605	1610	1615
Thr Gly Gln Tyr Arg Ala Asp Met Ser Val Pro Ser Pro Arg Ser Ser			
	1620	1625	1630
Thr Gly Arg Thr Asp Leu Ser Thr Gly Ser Pro Ala Gly Met Leu Glu			
	1635	1640	1645
Ser Gly Asp Gly Leu Phe Lys Ala Pro Met Thr Pro Arg Met His Gln			
1650	1655	1660	
Gly Asp Gly Gly Ala Leu His Pro Gly Ala Ser Pro Ser His Pro Ser			
1665	1670	1675	1680
Glu Gly Tyr Lys Gln Ser Pro Ser His Pro Phe Pro Glu Ser Pro Leu			
	1685	1690	1695
Ile Pro Arg Pro Gln Ser Gly Asp Asn Cys Ser Leu Gly Pro Gln Arg			
	1700	1705	1710
His Pro Ile Asn Gln Gln Glu Met Cys Pro Arg Val Pro Ser Ser Pro			
	1715	1720	1725
Gln Ser His Ser Asn Ser Gln Ser Pro His Thr Pro Gly Gly His Ser			
1730	1735	1740	
Asn Asp Gly Tyr Ser Ala Gln Ser Pro Ala Thr Pro Arg Phe Gln Ser			
1745	1750	1755	1760
Pro Glu His Cys Ser Gln Pro Ser Ser Arg Pro His Ser Arg Asp Ala			
	1765	1770	1775
Phe Thr Ala Val Gln Lys Pro Val Arg Ser Pro Ser Val Ala Pro Glu			
	1780	1785	1790
Ala Pro Ser Phe Lys Asn Ser Pro His His Thr Asn Ser Thr Leu Gly			
1795	1800	1805	
Asp Pro Leu Ser Gly Lys Pro Ser Ala Pro Pro His Phe Ser Ser Ile			
1810	1815	1820	

Pro Ser Thr Gly Gly Phe Gln Ile Thr Gln Gln Gln Asn Gln Met Val
 1825 1830 1835 1840
 Gln Gly Gln Leu Gln Gln Ser Gln Ala Gln Gln Asn Ile Gly Pro Asp
 1845 1850 1855
 Asn Tyr Gly Ala Arg Val Pro Thr Pro Ser Gly Thr Gln Glu Val Pro
 1860 1865 1870
 Val Val Arg Gln Pro Asp Pro Thr His Gln Pro Thr Leu Pro Gly Thr
 1875 1880 1885
 Gln Glu Met Ser Asp Ile Ser Thr Val Gln Asp Pro Ala Leu Gly Gly
 1890 1895 1900
 Leu Ser Pro Ser Glu Leu Glu Lys His Arg Gln Arg Leu Arg Glu Phe
 1905 1910 1915 1920
 Leu Ile Arg Gln Gln Met Gln Arg Asn Ser Ile Lys Gln Glu Lys Glu
 1925 1930 1935
 Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Gly Asn
 1940 1945 1950
 Ala Ser Ser Gly Trp Thr Gly Gly Glu Ile Cys Ala Phe Gln Gln Asp
 1955 1960 1965
 Lys Thr His Arg Ala Pro Pro Pro Tyr Pro Gln Asp Arg Val Thr Met
 1970 1975 1980
 Ser Ala Ala Gly Thr Gln Ala Pro Val Ala Gly Lys Met Pro Val Ala
 1985 1990 1995 2000
 Val Gly Gly Leu Glu Asp Lys Leu Ile Arg Pro Pro Pro Met Gly Thr
 2005 2010 2015
 Pro Ala Ile Met Asp Pro Asn Thr Leu Arg Pro Gln Gly Pro Ser Arg
 2020 2025 2030
 Pro Gln Gly Met Phe Asn Arg Pro Pro Phe Pro Pro His Trp Gln Asp
 2035 2040 2045
 Gln Ser Thr Gly Pro Arg Arg Phe Pro Gln Pro Asp Leu Gln Ala Met
 2050 2055 2060
 Gly Ile Arg His Asn Leu Asn Pro Ala Ala Asn Val Gln Asn Met Glu
 2065 2070 2075 2080

Gly Leu Gly Asn Pro His Thr Ile Ile Ala Gly His Gly Gly Glu Val
 2085 2090 2095
 Met Gln Pro Met Ser Gln Gly Pro Pro Pro Gln Phe Ile Glu Leu Arg
 2100 2105 2110
 His Asn Ala Gln Arg Leu Pro Leu Arg Pro Gln Phe Met Pro Arg Gly
 2115 2120 2125
 Pro Gln Pro Arg Ala Arg Leu Phe Val Pro Gln Gln Thr Met Ser Ala
 2130 2135 2140
 Pro Tyr Ile Ser Gln His Pro Ile Ser Gln Thr Gly Ser Ile Gln Thr
 2145 2150 2155 2160
 Asp Gly Ala Thr Asn Ser Gln Met Gly Leu Gln Gln Gly Gly Leu Ser
 2165 2170 2175
 Val Leu Leu Pro Gln Gln Pro Thr Gly Ser Val Thr His Lys Ser His
 2180 2185 2190
 Met Gly Pro Gln Ala Ala Ser Ser Ser Pro Asn Val Gly Thr Val Gln
 2195 2200 2205
 Ser Gln Leu Pro Pro Gln Ser Val Val Thr Arg Pro Gln Pro Thr Thr
 2210 2215 2220
 Val Glu Asn Ser Glu Glu Leu Pro Glu Pro Asp Leu Glu Gly Leu Gly
 2225 2230 2235 2240
 Asp Ala Ser Ala Asp Gly Gly Val Glu Asp Glu Asp Asp Leu Ala Leu
 2245 2250 2255
 Asp Leu Asp Pro Asp Lys Gly Asp Asp Asp Leu Gly Asn Leu Asp Asn
 2260 2265 2270
 Leu Glu Thr Asn Asp Pro His Leu Asp Asp Leu Leu Asn Ser Asp Glu
 2275 2280 2285
 Phe Asp Leu Leu Ala Tyr Thr Asp Pro Glu Leu Asp Gln Gly Asp Pro
 2290 2295 2300
 Lys Asp Val Phe Ser Asp Gln Leu Arg Leu Val Glu Ala Glu Thr Glu
 2305 2310 2315 2320
 Ala Pro Ser Ser Gly Ser Ala Gly Val Lys Val Glu Ile Lys Val Glu
 2325 2330 2335

Gln Gly Gln Lys Cys Ser Ala Val His Ser Thr Ala Gly Val Cys Ala
 2340 2345 2350
 Asn Gln Leu Pro Ala Ser Ser Lys Thr Ala Gly Asn Leu Lys Ile Lys
 2355 2360 2365
 Val Glu Asp Gly Gly Leu Ile Pro Gln Val Gln Pro Arg Gln Ile Val
 2370 2375 2380
 Lys Asp Glu Ile Gly Glu Ala Val Ser Ala Leu Leu Gly Gly Thr Thr
 2385 2390 2395 2400
 Ser Ser Pro Lys Ser Thr Gln Pro Glu Asn Gln Pro Ala Ser Leu Ser
 2405 2410 2415
 Ser Val Arg Leu Gly Gly Leu Ser Tyr Pro Leu Pro Ala Gln Thr Asp
 2420 2425 2430
 Pro Leu His Phe Pro Pro Thr Gly Ser Asp Ala Asp Asp Ala Leu
 2435 2440 2445
 Glu Leu Pro Asp Val Gly Gly Gln His Ser Pro Ala Val Asp Leu Ala
 2450 2455 2460
 Lys Val Glu Ser Ser Leu Asp Gly Glu Leu Pro Leu Leu Ile Gln Asp
 2465 2470 2475 2480
 Leu Leu Glu His Glu Lys Lys Glu Gln Gln Lys Gln Gln Gln Leu Ser
 2485 2490 2495
 Ser Leu His Gln Gly Gly Val Ala Pro His Phe Ser Ala Leu Ser Thr
 2500 2505 2510
 Asn Gln Gln Pro Asn Pro Gln Val Ala Gly Gln Ile Met Leu Pro Pro
 2515 2520 2525
 His His Arg Pro Pro Pro Gln Gly Met Met Gly Pro Pro Gly Met Val
 2530 2535 2540
 Pro Arg Pro Ser His Val Leu Gln Asn Gln Gln Pro Gln Gln Gln Arg
 2545 2550 2555 2560
 Leu Met Gly Pro Gly Leu Val Pro Pro Pro His Met Ala Met Asn Gln
 2565 2570 2575
 Gln Gln Thr Met Ile Arg Met Gly Gln Pro Gly Ile His Ala Gly Leu
 2580 2585 2590

Gly His Gln Gln Gln Pro Gln Ser Gly Val Lys Gln Pro Pro Leu Ser
 2595 2600 2605
 Asn Asn Phe Phe Pro Asp Lys Asp Leu Asp Lys Phe Thr Thr Asp Asp
 2610 2615 2620
 Ile Met Asp Pro Ile Ala Lys Ala Lys Met Val Ala Leu Lys Gly Ile
 2625 2630 2635 2640
 Asn Arg Val Leu Ala Gln Asp Pro Met Val Val Pro Pro Gly Ile Asn
 2645 2650 2655
 Arg Glu Gln Val Ser Leu Leu Ala Gln Arg Leu Ala Ser Ala Pro Ala
 2660 2665 2670
 Thr Asp Ala Gly Gln Leu Pro Ser Gly Pro Pro Lys Glu Gly Glu Thr
 2675 2680 2685
 Ser Asp Pro Thr Gln Ser Arg Pro Asn Pro Pro Gln Phe Val Gln Gly
 2690 2695 2700
 Ile Ile Asn Asp Ala Glu Lys His Gln Tyr Glu Glu Trp Leu Leu His
 2705 2710 2715 2720
 Thr Gln Gln Leu Leu Gln Met Gln Leu Lys Phe Leu Glu Glu Gln Ile
 2725 2730 2735
 Gly Val His Arg Lys Ser Arg Lys Ala Leu Cys Ala Lys Gln Arg Thr
 2740 2745 2750
 Ala Lys Lys Ala Gly Arg Glu Phe Ala Glu Ala Asp Ala Glu Lys Leu
 2755 2760 2765
 Lys Leu Val Thr Glu Glu Gln Ser Lys Ile Gln Lys Gln Leu Asp Gln
 2770 2775 2780
 Val Arg Lys Gln Gln Lys Glu His Thr Asn Leu Val Ala Glu Tyr Arg
 2785 2790 2795 2800
 Ser Lys Gln Gln Gln His Gln Gln Ser Ser Ser Leu Leu Asn Pro Gly
 2805 2810 2815
 His Ser Gly Pro Ala Gly Ala Pro His Met Phe Pro Lys Met Pro Gly
 2820 2825 2830
 Gln Met Val Ile Gly Gln Gln Gly Ala Gln Val Met Gly Gln His Pro
 2835 2840 2845

Thr Met Met Pro Gln Ala Gly Met Pro Val Arg Met Pro Gln Gly Gln
 2850 2855 2860

Pro Phe Val Gly Gly Pro Gln Pro Gln Leu Pro Ala Thr Leu Gly Asn
 2865 2870 2875 2880

Ser Gly Val Arg Gly Pro Gly Pro Ala Ala Thr Pro Ala Gly Phe Leu
 2885 2890 2895

Pro Gln Gly Pro Gly Met Gln Ser Pro Asp Ala Arg Leu Leu Gln Glu
 2900 2905 2910

Arg Gln Leu Gln His Arg Met Gln Met Ala Lys Leu Gln Gln Gln Gln
 2915 2920 2925

Gln Gln Ile Met Met Gly Gln Gln Pro Ile Pro His Ala Gly Asn Ser
 2930 2935 2940

Gln Thr Asn Leu Ile Pro Gln Thr Gln Ser Gly Met Ile Gly Asn Pro
 2945 2950 2955 2960

Val Met Ala Gln Gln Val Asn Ala Gln Gln Gly Met Pro Ser Asn Gln
 2965 2970 2975

Gly Ser Thr Gln Gly Met Met Gln Ile Pro Gln Gly Val Val Gly Ser
 2980 2985 2990

Gln Thr Val Val Ser Leu Pro Gln Asn Leu Ala Gly Gln Pro Ile His
 2995 3000 3005

His Ala Gln Ala Ile Ala Gly Gln Pro Gly Ile Met Gly Asn Gln Gln
 3010 3015 3020

Val Ala Met Ser Glu Gln Gln Arg Pro Met Gln Met Leu Ser Gln Gln
 3025 3030 3035 3040

Gly Met Val Gly Ser Pro Gly His Pro Gly Ile Arg Gly Pro His Ser
 3045 3050 3055

His Leu Thr Pro Gln Gln Gln Asn Ile Leu Ala Gln Arg Met Leu Ala
 3060 3065 3070

Ser Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Leu His Gln Gln
 3075 3080 3085

Gln Gln Gln Gln Gln Leu His Gln Gln Gln Gln Gln Gln Gln Leu His
 3090 3095 3100

Gln Gln Gln Gln Gln Gln Gln Leu Gln Leu Gln Gln Gln Gln Gln
 3105 3110 3115 3120
 Leu Gln Gln Gln Gln Asn Val Asp Lys Asn Met Ile Gln Phe Gln Gln
 3125 3130 3135
 Gln Gln Gln Met Ala Gln Lys Gln Gln Ala Met Gln Ile Ser Ser Gln
 3140 3145 3150
 Pro Ser Gln Asp Gln Gly Gly Leu Ser Gln Pro Ser Thr Pro Gln Met
 3155 3160 3165
 Gly Ser Ser Pro Cys Thr Arg Ser Val Thr Pro Gln Pro His Gly Gly
 3170 3175 3180
 Thr Asp Ser Gln His Pro Cys Pro Lys Glu Ser Gly Leu Leu Ser Pro
 3185 3190 3195 3200
 Glu Ser Lys Thr Pro Pro Gln His Ser Gly Pro Ser Thr Pro Ser His
 3205 3210 3215
 Val Tyr Gln Val Gly Ser Ala Asn Gln Leu Gln Gln Lys Lys Asp His
 3220 3225 3230
 Leu Asn Leu Gln Lys Gln Thr Gly Leu Met Gly Asn Gln Gln Ser Met
 3235 3240 3245
 Val Gln Gln Gln Gln Gln Gln Pro Leu Leu Thr Pro Gln Arg Gln Gly
 3250 3255 3260
 Ser Val Thr Asp Asp Lys Pro Ser Met Met Asn Ile Lys Glu Glu Gly
 3265 3270 3275 3280
 Lys Thr Ile Asp Ile Ser Val Gln Gln Gln Gln Gln Gln Ala Val Gln
 3285 3290 3295
 Asn Pro Met Met Gln Ser Gln Asp Ser Ser Met Gln Leu Gln Val Thr
 3300 3305 3310
 Gly Gln Pro His Pro Gly Gln Gln Gln Pro Val Val Met Gly His Asn
 3315 3320 3325
 Pro Gln Gln Gln Ala Leu Met Ala Gln His Gln Lys Gln Gln Ala Met
 3330 3335 3340
 Met Gly Ile Ile Arg Ala Gln Gln Gln Gly Ile Thr Ala Gln Arg Pro
 3345 3350 3355 3360

Ala Leu Gln Pro Gly Gln Ile Arg Thr Pro Val Asn Ile Gln Ala Ile
3365 3370 3375

Ile Ala Gln Asn Pro Gln Leu Arg Asn Leu Pro Pro Asn Gln Gln Ile
3380 3385 3390

Gln His Ile Gln Ala Ile Ile Ala Gln Arg Gln Ile Gln Gln Gly Gln
3395 3400 3405

Met Leu Arg Met Ala Met Gly Gln Gly Gln Ile Arg Pro Gln Met Pro
3410 3415 3420

Pro Gly Gln Val Leu Gln Val Gly Gln Gln His Gln Ser Asn Met Leu
3425 3430 3435 3440

Gln Pro Gly Val Asn Ser Gln Met Gln Gln Gly Met Val Val His Gly
3445 3450 3455

Gln Gln Gln Gln Ser His Thr Gly Glu Met Met Gln Asn Ile Ser Arg
3460 3465 3470

Ser Gln Ala Pro Val Pro Pro Ala Thr Ala Glu Gln Gly Arg Met Ala
3475 3480 3485

Met Pro Ala Ser Pro Cys Gln Pro Leu Ala Asn Pro Pro Gly Asp Pro
3490 3495 3500

Gln Arg His Ala Phe Asn Gln Asn Met Ala Met Arg Pro Pro Thr Pro
3505 3510 3515 3520

Asn Gln Asn Gln Gln Ala Leu Met Ala Ala Gly Gly Arg Val Gln Gly
3525 3530 3535

Ser Pro Ser His Ala Tyr Ser Pro Arg Gly Pro Phe Gly Met Ser Pro
3540 3545 3550

Val His Pro Ala Ser Pro Asn Ser Ser His Ala Ser Ser Pro Ser Met
3555 3560 3565

Gly Asp Gly Arg Ala Gly Arg Gly Ser Pro Tyr Asn Gln Ile Lys Ala
3570 3575 3580

Ser Pro Leu Arg Ser Pro Gly Ala Lys Ser Pro Leu Asp Ser Leu Val
3585 3590 3595 3600

Leu Lys Val Glu Thr Gln Thr Ser Gly Asn Glu Thr Ser Gln Thr Ala
3605 3610 3615

Leu Gly Ile Pro Asn Gly Pro Gln Lys Ser Ile Asn Ile Lys Gln Gln
 3620 3625 3630
 Thr Gln Gln Val Ser Glu Val Leu Gly Pro His Ala Gln His Gly Ser
 3635 3640 3645
 Ser Gly Glu Asn Pro Arg Arg Phe Ser Leu Gln Asn Ile Lys Gln Glu
 3650 3655 3660
 Pro Arg Glu Val His Cys Asp Gly Ala Ala Ile Ala Asn Ser Lys Ala
 3665 3670 3675 3680
 Val Lys Arg Glu Val Thr Gly Glu Ala Val Thr Leu Gly Asn Asn Pro
 3685 3690 3695
 Gly Phe Ile Asn Glu Gly Asn Ile Ser Gly Asp Pro Gly Asn Gln Gly
 3700 3705 3710
 Pro Arg Ser Glu Thr Gly Gln Gln Leu Leu Gln Lys Leu Leu Lys Thr
 3715 3720 3725
 Lys Asn Leu Gln Leu Gly Ala Gln Arg Pro Ala Asp Gly Ile His Asn
 3730 3735 3740
 Glu Ile Asn Gly His Ile Asn Thr Lys Leu Ala Met Leu Glu Gln Lys
 3745 3750 3755 3760
 Leu Gln Gly Thr Pro Gln Asn Met Glu Val His Ser Val His Asp Leu
 3765 3770 3775
 Gln Ser Ile Thr Lys Arg Ala Ala Val Gln Lys Pro Lys Arg Thr Ile
 3780 3785 3790
 Lys Ala Ala Gly Gly Pro Asn Ala Arg Lys Lys Asn Lys Lys Glu Glu
 3795 3800 3805
 Val Gly Lys Ser Thr Glu Thr Leu Ile Lys Gln Leu Lys Gln Gly Leu
 3810 3815 3820
 Ser Leu Leu Pro Leu Met Glu Pro Ser Ile Thr Ala Ser Leu Asp Leu
 3825 3830 3835 3840
 Phe Ala Pro Phe Gly Ser Ser Pro Ala Asn Gly Lys Ala Gln Leu Lys
 3845 3850 3855
 Gly Ser Phe Gly Asn Ala Val Leu Asp Asn Ile Pro Asp Tyr Tyr Ser
 3860 3865 3870

Gln Leu Leu Thr Lys Asn Asn Leu Ser Asn Pro Pro Thr Pro Pro Ser
 3875 3880 3885
 Ser Leu Pro Pro Thr Pro Pro Pro Ser Val Gln His Lys Leu Leu Asn
 3890 3895 3900
 Gly Val Thr Ser Ala Glu Glu Leu Ala Gly Gly Gln Lys Asp Lys Lys
 3905 3910 3915 3920
 Pro Ala Glu Glu Pro Met Glu Ser Val Thr Leu Glu Val Lys Ser Val
 3925 3930 3935
 Asp Ile Leu Ala Ala Leu Pro Thr Pro Pro His Asn Gln Asn Glu Asp
 3940 3945 3950
 Ile Arg Met Glu Ser Asp Asp Glu Asp Ala Pro Glu Ser Ile Ile Pro
 3955 3960 3965
 Ala Ser Ser Pro Glu Ser Asn Ile Gly Asp Glu Ala Lys Arg Phe Pro
 3970 3975 3980
 His Leu Gln Glu Pro Lys Glu Glu Glu Thr Glu Arg Ala Ile Ser Pro
 3985 3990 3995 4000
 Ile Ile Pro Leu Ile Pro Arg Thr Ala Ile Pro Ala Phe Pro Glu Tyr
 4005 4010 4015
 Lys Pro Leu Glu Gly Ser Asp Ser Lys Val Ala Ser Thr Ser Asn His
 4020 4025 4030
 Trp Glu Lys Ala Lys Ser Asn Glu Val Ser Val Thr Leu Thr Leu Ser
 4035 4040 4045
 Ser Ala Ala Ala Lys Lys Leu Asn His Val Met Met Ala Met Ala Gln
 4050 4055 4060
 Leu Leu Asn Ile Gln Met Pro Gly Ser Tyr Glu Leu Ser Phe Pro Pro
 4065 4070 4075 4080
 Gln Asn Pro Asp Met Ala Asp Phe Asp Gly Pro Gly Lys Gly Pro Gly
 4085 4090 4095
 Gln Ser Ala Leu Gly Leu Ser Asp Gly Ala Ala Val Ser Gln Glu Glu
 4100 4105 4110
 Trp Leu Arg Gln Phe Asp Val Ser Leu Pro Gly Cys Thr Leu Lys Lys
 4115 4120 4125

His Val Asp Ile Leu Ala Leu Ile Lys Gln Glu Phe Ser Glu Lys Glu
4130 4135 4140

Asp Lys Pro Val Gln His Cys Tyr Thr Thr Asn Val Ser Asp Leu Asp
4145 4150 4155 4160

Val Arg His Leu Pro Asp Ile Pro Val Glu Glu Ser Pro Pro Ala Ser
4165 4170 4175

Pro Ser Pro Pro Leu Pro Ala Ala Ser Ala Ala Val Ser Ser Ser Glu
4180 4185 4190

Ala Glu Pro Val Lys Lys Ser Ala Ser Ser Ser Pro Ser Pro Ser Ser
4195 4200 4205

Pro Ala Gln Val Gln Ile Lys Thr Glu Ala Glu Ser Asp Ser Gly Ala
4210 4215 4220

Ala Ala Asp Ala Ala Gln Pro Ala Asp Leu Gly Glu Pro Gly Pro Pro
4225 4230 4235 4240

Glu Ser Asp Ala Ala Ala Ala Pro Cys Ala Asp Pro Glu Pro Ala
4245 4250 4255

Ala Pro Ala Asp Val Leu Pro Asn Val Lys Lys Trp Lys Gly Ile Arg
4260 4265 4270

Trp Lys Arg Leu Pro Ile Val Ile Ser Ile Arg Lys Gly Ser Ser Lys
4275 4280 4285

Lys Glu Thr Ser Arg Glu Val Ser Glu Leu Met Glu Ser Leu Arg Ile
4290 4295 4300

Thr Leu Arg Pro Glu Arg Leu Pro Arg Asp Lys Arg Lys Cys Cys Phe
4305 4310 4315 4320

Cys His Glu Glu Gly Asp Gly Ala Thr Asp Gly Pro Ala Arg Leu Leu
4325 4330 4335

Asn Ile Asp Val Asp Leu Trp Val His Leu Asn Cys Ala Leu Trp Ser
4340 4345 4350

Thr Glu Val Tyr Glu Thr Gln Gly Gly Ala Leu Met Asn Val Glu Val
4355 4360 4365

Ala Leu Arg Arg Gly Leu Arg Thr Leu Cys Ala Phe Cys Gln Lys Thr
4370 4375 4380

Gly Ala Thr Asn Ser Cys Asn Arg Leu Arg Cys Pro Asn Val Tyr His			
4385	4390	4395	4400
Phe Ala Cys Ala Ile Arg Ala Arg Cys Met Phe Phe Lys Asp Lys Thr			
	4405	4410	4415
Met Leu Cys Thr Gln His Lys Leu Lys Gly Pro Ser Glu Asp Glu Leu			
	4420	4425	4430
Ser Leu Phe Ala Val Leu Arg Arg Val Tyr Ile Glu Arg Asp Glu Val			
	4435	4440	4445
Lys Gln Ile Ala Ser Ile Leu Gln Arg Gly Asp Arg Ile His Leu Phe			
	4450	4455	4460
Arg Val Gly Gly Leu Ile Phe His Ala Val Gly Gln Leu Leu Pro Ser			
	4465	4470	4475
			4480
Gln Met Ala Asn Phe His Ser Pro Thr Ala Ile Phe Pro Val Gly Tyr			
	4485	4490	4495
Glu Ala Thr Arg Ile Tyr Trp Ser Thr Arg Leu Pro Asn Lys Arg Cys			
	4500	4505	4510
Arg Tyr Arg Cys Arg Ile Ser Glu Asp Asp Gly Arg Pro Leu Phe Glu			
	4515	4520	4525
Val Arg Val Leu Glu His Gly Met Glu Asp Leu Gln Phe Arg Asp Cys			
	4530	4535	4540
Thr Pro Glu Gly Ile Trp Asn Gln Val Val Gln Lys Val Ala Gln Leu			
	4545	4550	4555
			4560
Arg Glu Glu Ser Ser Met Leu Lys Leu Phe Thr Glu His Val Lys Gly			
	4565	4570	4575
Glu Asp Met Tyr Gly Leu Thr Ile His Ala Val Met Arg Ile Thr Glu			
	4580	4585	4590
Ser Leu Pro Gly Val Glu Asn Cys Gln Asn Tyr Gln Phe Arg Tyr Gly			
	4595	4600	4605
Arg His Pro Leu Met Glu Leu Pro Leu Met Ile Asn Pro Thr Gly Cys			
	4610	4615	4620
Ala Arg Ser Glu Pro Lys Val Ser Thr Gln Cys Lys Arg Pro His Thr			
	4625	4630	4635
			4640

Leu Asn Ser Thr Ser Val Ser Lys Ala Tyr Gln Ser Thr Phe Thr Gly
 4645 4650 4655

Glu Leu Asn Thr Pro Tyr Ser Lys Gln Phe Val His Ser Lys Ser Ser
 4660 4665 4670

Gln Tyr Arg Arg Leu Lys Thr Glu Trp Lys Asn Asn Val Tyr Leu Ala
 4675 4680 4685

Arg Ser Arg Ile Gln Gly Leu Gly Leu Tyr Ala Ala Lys Asp Leu Glu
 4690 4695 4700

Lys His Thr Met Val Ile Glu Tyr Ile Gly Thr Val Ile Arg Asn Glu
 4705 4710 4715 4720

Val Ala Asn Arg Arg Glu Lys Ile Tyr Glu Ser Gln Asn Arg Gly Ile
 4725 4730 4735

Tyr Met Phe Arg Ile Asn Asn Glu Gln Val Ile Asp Ala Thr Leu Thr
 4740 4745 4750

Gly Gly Pro Ala Arg Tyr Val Asn His Ser Cys Ala Pro Asn Cys Val
 4755 4760 4765

Ala Glu Val Val Thr Phe Asp Lys Glu Asp Lys Ile Ile Ile Ile Ser
 4770 4775 4780

Ser Arg Arg Ile Pro Lys Gly Glu Glu Leu Thr Tyr Asp Tyr Gln Phe
 4785 4790 4795 4800

Asp Phe Glu Asp Asp Gln His Lys Ile Pro Cys His Cys Gly Ala Trp
 4805 4810 4815

Asn Cys Arg Lys Trp Met Asn
 4820

<210> 170

<211> 125

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SET domain
sequence

<400> 170

Lys Lys Leu Glu Val Phe Lys Ser Pro Gly Lys Gly Trp Gly Leu Phe
 1 5 10 15

Ala Thr Glu Asp Ile Pro Lys Gly Glu Phe Ile Leu Glu Tyr Val Gly
 20 25 30

Glu Ile Ile Thr Ser Asp Glu Ala Glu Glu Arg Glu Lys Ala Tyr Asp
 35 40 45

Thr Asp Gly Ala Lys Ser Ser Tyr Leu Phe Asp Ile Asp Ser Lys Asp
 50 55 60

Leu Cys Ile Asp Ala Arg Arg Lys Gly Asn Leu Ala Arg Phe Ile Asn
 65 70 75 80

His Ser Cys Glu Pro Asn Cys Glu Leu Val Phe Val Glu Val Asp Gly
 85 90 95

Asp Pro Arg Ile Val Ile Phe Ala Leu Arg Asp Ile Lys Pro Gly Glu
 100 105 110

Glu Leu Thr Ile Asp Tyr Gly Ser Asp Tyr Glu Gly Glu
 115 120 125

<210> 171

<211> 86

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: FYRC domain
 sequence

<400> 171

Leu Phe Arg Val Glu Val Glu Ser Asp Pro Gly Glu Val Phe Lys Gly
 1 5 10 15

Glu Ser Pro Glu Ala Cys Trp Glu Met Val Leu Glu Arg Val Gln Glu
 20 25 30

Ala Arg Ile Ala Ala Arg Leu Leu Gln Leu Leu Pro Glu Gly Val Ser
 35 40 45

Gly Glu Asp Met Phe Gly Leu Ser Ser Pro Ala Val Val Lys Leu Ile
 50 55 60

Glu Gln Leu Pro Gly Val His Gln Cys Thr Asn Tyr Trp Phe Arg Tyr

Glu Lys Glu Arg Tyr Glu
50

<210> 174
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 174
gagctcacct tcacgtgtac at 22

<210> 175
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 175
ctaccccagg cccaacgtgt actg 24

<210> 176
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 176
gctgttgtcc gtcttattga tc 22

<210> 177
<211> 22
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 177

gagctcacct tcacgtgtac at

22

<210> 178

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 178

ctaccccagg cccaacgtgt actg

24

<210> 179

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 179

gctgttggtcc gtcttattga tc

22

<210> 180

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 180

gagctcacct tcacgtgtac at

22

<210> 181

<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 181
ctaccccagg cccaacgtgt actg

24

<210> 182
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 182
gctgtgtgcc gtcttattga tc

22

<210> 183
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 183
tctggacaag cagtgaccat

20

<210> 184
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 184

accaccacca attccaagag agagga

26

<210> 185

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 185

ttctcagtgt gctggtcaca

20

<210> 186

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 186

tcaagtcctg agtggagatt agat

24

<210> 187

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 187

tggtcatccc agaactacct ctggca

26

<210> 188

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 188

cccagaatta ccaagtgagt cct

23

<210> 189

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 189

aatgagaggg gtttcctgtc t

21

<210> 190

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 190

caggtcctgc tccttctggt gctg

24

<210> 191

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 191

caacgatccg actggacat

19

<210> 192

<211> 21

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 192
aatgagaggg gtttcctgtc t 21

<210> 193
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 193
caggtcctgc tccttctggt gctg 24

<210> 194
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 194
gcagacttcc ttccctgagt 20

<210> 195
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 195
tcctgaggtg tggatgaata ct 22

<210> 196
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 196
catcatctac aatggctacc ccagtga 27

<210> 197
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
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Sequence

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gaaacagtcg gggaaacact 20

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Sequence

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aaaccaaagg cccagaattt

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Sequence

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Sequence

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Sequence

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Sequence

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Sequence

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Sequence

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<210> 223
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Sequence

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Sequence

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22

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Sequence

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27

<210> 227

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Sequence

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agataaaacta ccgcacccat gt

22

<210> 228

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Sequence

<400> 228

tagttatcta cctgcgcttc ca

22

<210> 229

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Sequence

<400> 229
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26

<210> 230
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Sequence

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22

<210> 231
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<220>
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Sequence

<400> 231
ttcagaaaca ctgtccaaag ct

22

<210> 232
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Sequence

<400> 232

caccatgact taccatctga gccctg

26

<210> 233

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Sequence

<400> 233

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22

<210> 234

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22

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26

<210> 236

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<400> 236
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<400> 237
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Sequence

<400> 238
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<210> 239
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<210> 240
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 <400> 240
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 <210> 241
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 <400> 241
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 <400> 242
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 <400> 243
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<210> 244
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<220>
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<210> 245
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Sequence

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<400> 246
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<210> 247
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<220>
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Sequence

<400> 247
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<210> 248
<211> 22
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<220>
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Sequence

<400> 248
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<210> 249
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<220>
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Sequence

<400> 249
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<210> 250
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Sequence

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<210> 251
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Sequence

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<210> 252

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<223> Description of Artificial Sequence: PCR Primer
Sequence

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22

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Sequence

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24

<210> 254

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Sequence

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22

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Sequence

<400> 255
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<210> 256
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Sequence

<400> 256
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<210> 257
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Sequence

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<210> 258
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<400> 258
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<210> 261
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Sequence

<400> 261
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<210> 262
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<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 262

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<210> 263

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Sequence

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<210> 264

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<223> Description of Artificial Sequence: PCR Primer
Sequence

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<210> 265

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Sequence

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26

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Sequence

<400> 266
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Sequence

<400> 267
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Sequence

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<210> 269
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<220>
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Sequence

a1

<400> 269

cagttgtctc cgttgtaggc

20

